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ABSTRACT

This second version of a computerized school records system utilizing punch cards was developed by high school students under faculty guidance. Not only is it inexpensive to use, but it is tailored to the needs of a particular school and, therefore, responsive to its needs. Detailed step by step instructions are provided for utilizing the system. Sufficient information is provided to guide a school desiring to develop a similar system. Appended are: (1) documented programs and computer file information, (2) sample printouts, and (3) a calendar of tasks related to the system. (STS)

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HARTS II

HILLSIDE ADMINISTRATION REPORTING TIMETABLING SYSTEM

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PARTS II

HILLSIDE ADMINISTRATION REPORTING TIMETABLING SYSTEM

by

Wm. P. Goddard

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INTRODUCTION

A. History and Rationale

During the summer of 1974 two students, Richard Currie and Joyce Wills, working under the guidance of the author, devised HARTS I. This sophisticated system used computer tapes and discs and the mini-computer Hewlett Packard 9830. The system was easily adaptable to any computer using a modern version of the BASIC language. The main drawback of HARTS I was that the computer itself was needed to make every change and inquiry. This interfered with the computer's first three priorities at Hillside Secondary School in West Vancouver B.C.:

a) orientation of mathematics 8 students for " computer literacy".
b) services to the various subject areas such as " graze ecology" for Biology, " survey " for Social Studies, and " graphex " for senior mathematics courses.
c) computer science courses.

This early version of HARTS also required technically trained clerical staff.

During the summer of 1975 a student, Larry Burns, devised the System HARTS II using punch cards so that manipulation of records could be handled by untrained staff and students in the office. These human-readable punch cards could be processed without access to the computer except when lists or tallies were required. This system, although apparently more "old fashioned" in its use of punch cards rather than tape and disc files, was less error prone, more easily understood, and less demanding of computer and computer-personell time. It also provided an opportunity for students to render a service to the school, thereby saving money while teaching students the principles of data management. As the students participated they felt less " de-humanized " by the computer treatment of their personal files. A great deal of polishing and some additions were made in the summer of 1976 by Greg Scholey.

The system works on a computer which costs less than $ 20,000 capital expenditure and provides better service than any commercial, university or government

data processing service because it is tailored to the needs of a particular school and is more responsive to sudden changes in these needs. Commercial services cost about $ 7,000 a year for a 1200 student school for administration services alone, whereas the operating expenses of the mini-computer are less than $ 1,500 per year including maintenance contract, paper and tapes as well as cards for all uses. Even the lease of a key punch machine (which can be avoided by borrowing one during the brief periods it is required) which can be shared by the business education department, costs less than $ 1,500 extra per year. At least $ 4,000/year may therefore be found from administrative budget alone to pay for the capital cost of the machine, which may then be retired in 5 years. Even if the machine is then " obsolete " by comparison with newer computers it can still perform those operations for which it was purchased as well as providing the three important services mentioned above. The cost/student is therefore (in a school of 1200 students) $ 7.00/year for the first five years and $ 3.00/year thereafter for all computer use. Although lower costs are cited for time-shared terminal-based computer systems, it should be noted that the cost of coordinating computer use is often not included and that only about six students/hour can have personal access to a terminal. As the mini-computer is resident in a regular classroom and is operated by students there are no staffing costs. Staffing costs are likely to be quite high in terminal, time sharing, and large machine utilization. The annual salary of one coordinator can be as much as the purchase price of a mini-computer.

B. Organization

1. This paper presents an overview of the HARTS system in its table of contents which is organized in task-performance order. This should be useful to the administrator. (i&ii)
2. Each task is treated in detail in the body of the paper - the paper may therefore be used as an operator's manual. (I - XV)
3. A discussion of philosophy is left until each element of the system has been described (XVI)

4. Documented programs are then provided so that programmers adapting the system to the needs of an individual school have a programmers manual. (XVII)
5. Sample printouts are then provided to show the scope of the HARTS system. (XVIII)
6. A work schedule is provided at the end of the paper to allow for scheduling the use of HARTS in any school.

C. Equipment

Any good modern version of the BASIC language should adequately handle the programs described in this paper, however the equipment used at Hillside was as follows;

9830 Hewlett Packard Calculator - Computer with:
thermal printer (240 lines/min.)
card reader with large hopper, reject hopper, bell (300 cpm)
and the following ROMS (read-only-memories)
LATCH
EXTENDED I/O
STRING
MATRIX
ADVANCED PROGRAMMING I.

A borrowed impact printer was connected to the computer at report card time.

A UNIVAC 1710 VIP KEY PUNCH was used to punch cards.

D. Acknowledgements

Many students, staff members, and administrators have contributed to the evolution of the HARTS system. They cannot all be listed here, but those with particularly large responsibilities are as follows, in the order of the date of their involvement:
HARTS I
Mr. R.J. Wright, Principal till 1975 of Hillside, fought to get us the computer and budgeting ~~bf~~ hiring Richard Currie & Joyce Wills.
Mr. W. Elliott, Academic Planning, advised us as to

needs, then tested programs and suffered from our errors, and suggested improvements.
Richard Currie & Joyce Wills, who devised the programs for HARTS I.
Mr. R. Berry, Vice-Principal 1974-75, for helping to test HARTS I.

HARTS II
Mr. A. E. Ashcroft, Principal, Hillside Secondary - for supporting our computer program, supporting the revision of HARTS I to HARTS II by budgeting for and advising & helping Larry Burns' & Greg Scholey's revision, and for actively participating in the perfecting of the system.
Larry Burns - For devising HARTS II & giving of himself beyond the call of duty.
Greg Scholey - For polishing & adding to HARTS II.
Mr. D. Fletcher, Vice-Principal, Hillside - For cheerfully suffering through the inadequacies of the original system.
Mr. W. R. Elliott - ACADEMIC PLANNING - For continued sound advice & hard work.
Mr. John Healey - Counselling & Bus. Ed. - For taking over much of the work, working with students, and valuable advice.

I ASSIGN STUDENTS TO DIVISIONS

A student master card should be made out for each student (see below). All information will be available for previously enrolled students but new students' information will be acquired at registration time or from the school previously attended. Attention must be paid to ensuring that address and phone numbers are current.

The student master card is the heart of the system. This hand prepared record is always kept in the office and is the one which is always assumed to be correct. It has on its top line the student data which must be used for key punching student cards. The following lines contain additional student information. At a later time directions will be given for entering the student's timetable and timetable changes. There is room for up to three course changes for each block (i.e., subject/time). The entry at the right is the current one and a history of student course changing activity is obvious from a glance at the card. On

the reverse side of the card is a record of teacher con tact with the student's home. This should aid members of the faculty in coordinating their treatment of the student. The student master cards are blue for boys and yellow for girls.

Sample of "STUDENT MASTER CARDS"

OBVERSE

BIRTHDATE / /

Div. No. | Family Name | First Name Used | Address | City if not WV | Phone

Locker No. | Birth Day, Mon. Yr. | Legal First Names | Parent or Guardian | Business Phone

Date of entry | Last School (and address) | Dentist | Phone | Doctor | Phone

	SEMESTER 1 Changes (inc. date)				SEMESTER 2 Changes (inc. date)				
A	Subject Teacher Room								
B	Subject Teacher Room								
C	Subject Teacher Room								
D	Subject Teacher Room								
E	Subject Teacher Room								

Split El. Subject | Teacher Room | Day

Guidance: _____
Teacher/Room/Day

REVERSE

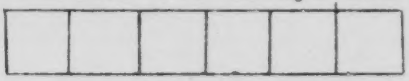
PARENT CONTACT – CITIZENSHIP RECORD

DATE	INCIDENT	ACTION TAKEN	TEACHER

Student master cards should be arranged alphabetically by division. (Division or homeroom class or enrollment teacher class should be used even where homerooms do not meet - there should be one teacher who has overall responsibility for each student. This could be the teacher of the student's A Block class or of the first class on Monday morning.)

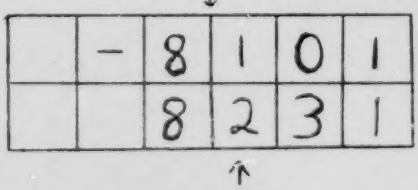
STUDENT NUMBERS: (These should be assigned as soon as students are placed in divisions.)

1. Student numbers are always six character spaces long.



2. Male student numbers are always negative (or a + sign may be used).
3. Students in grades lower than ten always have numbers beginning with at least one space.
4. Grade eight divisions are numbered 81, 82, 83 . . . Grade nine divisions are numbered 91, 92, 93 . . . (only 9 divisions/grade may be used without a program revision.)
5. Grade ten divisions are numbered 101,102,103 . . . Grade eleven divisions are numbered 111, 112, 113 . .
6. When student numbers are assigned initially they are assigned the last two digits in alphabetical order. New students added to a division after its initial formation are simply numbered sequentially after the highest previous number in order to identify them as new students. The computer can alphabetize lists of names at a later date even if student cards and numbers are out of order.
7. Examples:

Grade eight:
if first student alphabetically in div. 81 is a boy



if thirty-first student alphabetically in div. 82 is a girl

Grade twelve
if seventeenth student alphabetically in div. 124 is a boy

-	1	2	4	1	7
	1	2	1	0	6

if sixth student alphabetically in div. 124 is a girl

NOTE: SPACES OR BLANKS ARE AT THE LEFT OF THE NUMBER

FAMILY NAME & FIRST NAME USED

This is the name by which the student is usually known. It is best to keep this form of the name less than 24 characters in length even if an abbreviation is necessary. SURNAME FIRST, THEN A COMMA, THAN A SPACE, THEN USUAL FIRST NAME.

ADDRESS:

This is in the form appropriate for addressing envelopes.

CITY/ETC ABBREV:

The city should be abbreviated but always in a form acceptable to postal authorities. The city name should be followed (after a space) by the postal code.

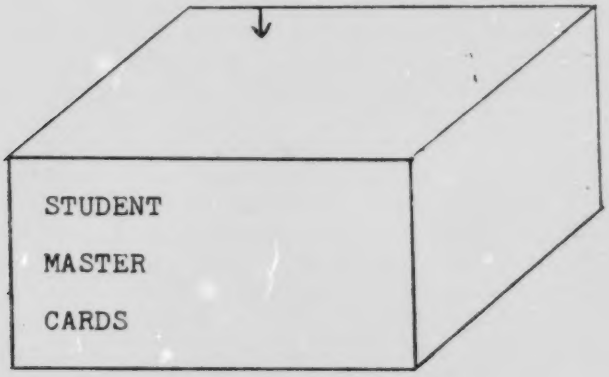
PHONE:
This should not include a hyphen.

BIRTHDATE:

The present program assumes the Canadian method of writing dates. (i.e. Day, Month, Year : Sept 12, 1960= 12 09 60). The program is easily revised to the American method where Sept. 12, 1960 = 9 12 60
NOTE: ZEROES ARE REQUIRED FOR ONE DIGIT ENTRIES OF THE SECOND NUMBER.

OTHER INFORMATION : All other information in the blanks at the top of the card is filled in as convenient - none of this ends up being key punched so its format is unimportant. Locker number may be filled in at text-book issuing time.

TIMETABLE NOTE: If arena timetabling is not used, the timetable will be filled in when the student is programmed- If arena scheduling is used, the timetable may be typed (or glued with 'glue-stik' from the computer printout).



FILED INITIALLY BY DIVISION WITH A DIVISION INDEX CARD HEADING EACH DIVISION, FILED LATER IN ALPHABETICAL ORDER (AFTER SCHEDULING).

II KEYPUNCH STUDENT CARDS

The student master cards, arranged alphabetically (and therefore numerically) by division are taken in a file box (computer card cartons are ideal) to the key punch. There are commercial firms who will undertake this key-punching but students who can type can easily learn to use a key punch if they use the manual which accompanies the machine. Key punch experience is valuable for both business education and science students.

The key punch selected should use the same code as the computer (usually hollerith). The key punch must type along the top of the card (interpret) as well as punch holes so that the cards are human-readable. Card waste can be cut to a minimum if the sort of key punch is used which stores characters for editing before punching them. (The Univac 1710 VIP is ideal).

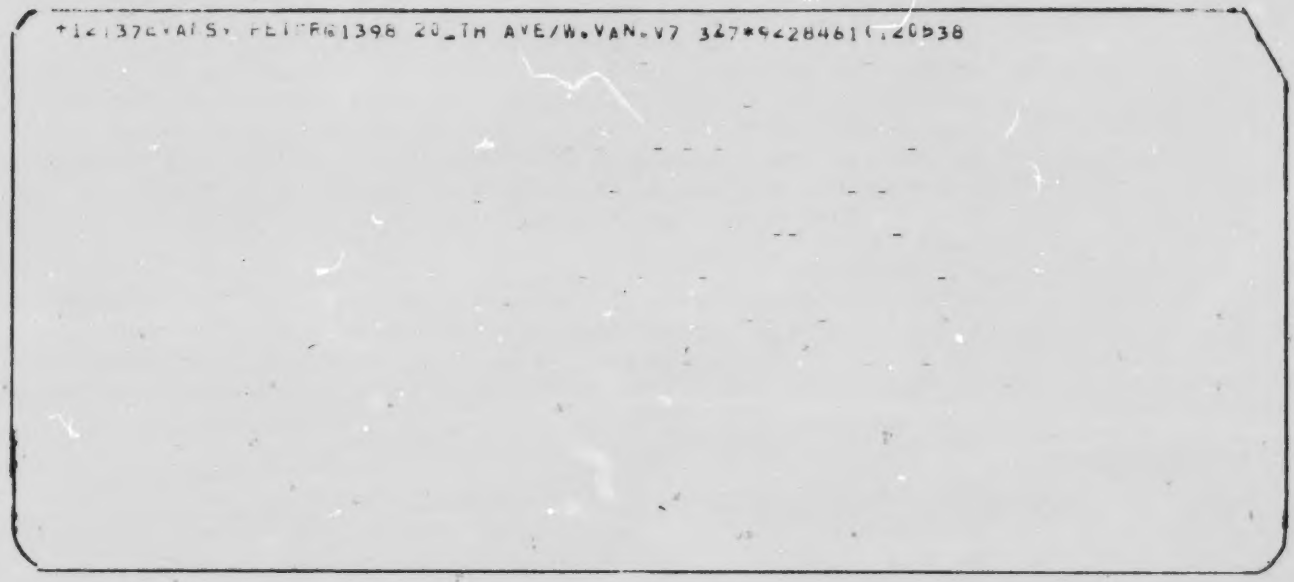
Any kind of card can be used, but a coloured card (say natural) with a minimum of printing along its top edge is preferred. The card should be coloured to differentiate student cards from teacher cards. (This will be green first semester, red second). A minimum of printing along the top edge of the card will make for ease of human reading of the card. For the purpose of saving money any obsolete or overstocked card should be used. The card type most commonly used in the school for other computer work may be used as card costs decline with the numbers purchased. Blank cards may be used as they are cheap and can be printed on the school's offset press if a light-reflective ink is used.

The student number is the only item which uses a field (i.e. where spacing counts). Other information may be of varying length as "separators" are used between items.

The information is copied directly off the student master card onto the student card using:

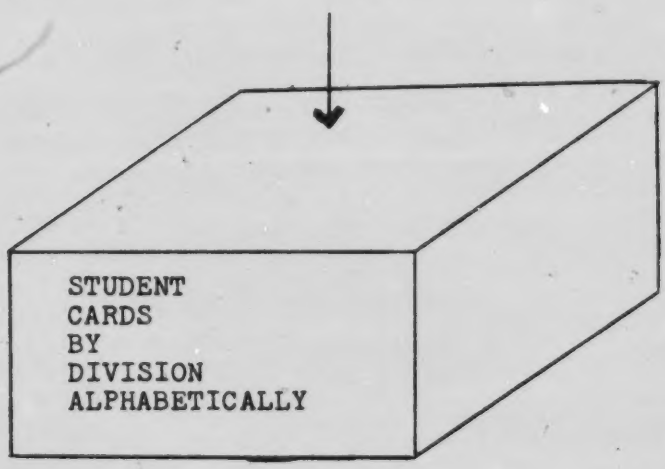
@ after the name
* after the address
/ after city and postal code (if city used)
(or % after the phone number

SAMPLE STUDENT CARD



NOTE: If you wish to write on a card by hand-use pen not pencil.
NOTE: Do not use spaces between items.
NOTE: Some key punches will print a different character from that punched. This is acceptable. e.g. 5 for an apostrophe

(" " %



III DUPLICATE COPIES OF STUDENT CARDS

When a complete set of student cards has been prepared a number of copies must be made. This should equal the maximum number of subjects a student may take in his grade plus four extra. For example, if a student could possibly take ten courses then fourteen cards must be made, the original and thirteen others. In counting courses one must include library and study periods and split blocks (eg. guidance, P.E., art in the same 'subject time').

A "block" is a teaching time allotment. At the author's school the blocks of the first semester are A,B,C,D,E; of the second semester F,G,H,I,J - and the blocks rotate in period times through the days of the week as follows;

	MON	TUES	WED	THURS	FRI
Period 1	A	B	C	D	E
Recess	---	---	---	---	---
Homeroom	---	---	---	---	---
Period 2	B	C	D	E	A
Period 3	C	D	E	A	B
Lunch	---	---	---	---	---
Period 4	D	E	A	B	C
Period 5	E	A	B	C	D

Therefore if a student takes English in B Block, he goes to English class in the second period Monday, 1st period Tuesday, 5th period Wednesday, 4th period Thursday & 3rd period Friday.

Cards may be duplicated either:

a) on the key punch by inserting the original student card and holding down the DUPLICATE key until the correct number of cards have been produced. (See your key punch manual).
b) by programming some types of key punch (see manual).
c) by borrowing the use of a reproducing punch and interpreter to print cards. This will sometimes produce only one copy of each card at a pass and the resulting sets must then be collated into student sets. A sorter can sometimes be used to do this.

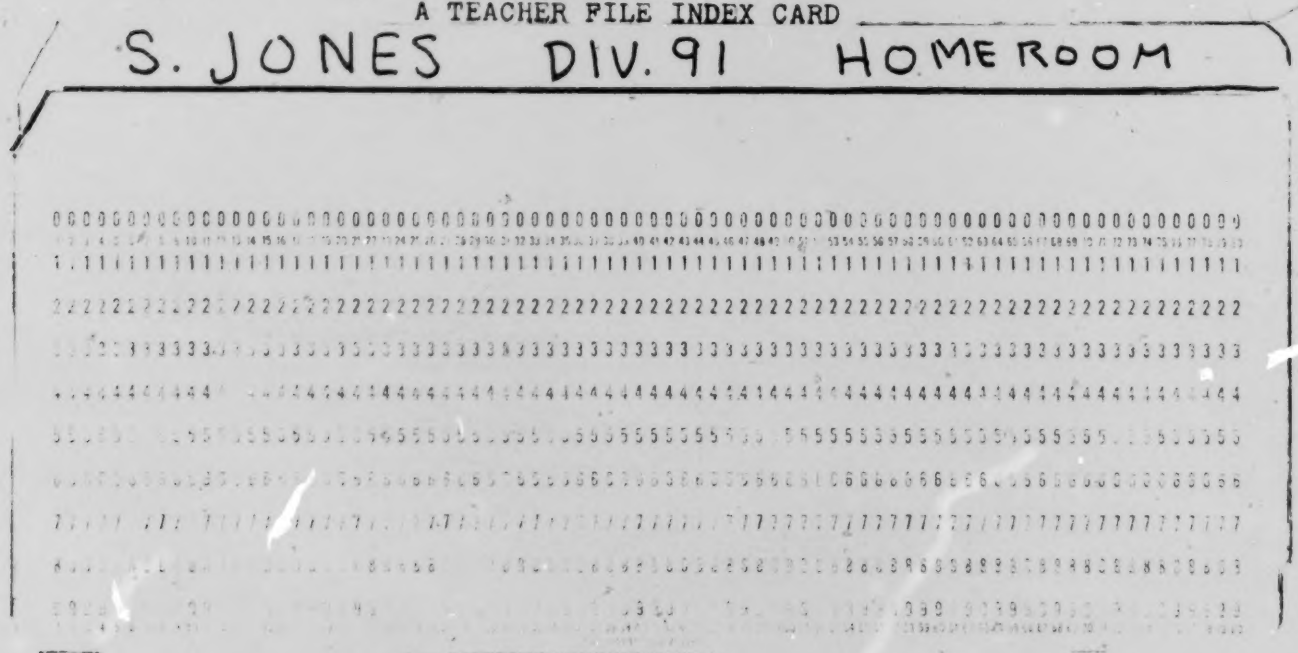
Businesses and universities are sometimes generous enough to loan such equipment.

IV FILING OF STUDENT CARDS

One complete set of student cards(the originals) should now be filed in division/alphabetic order. Each division should be preceded by a copy of the homeroom teacher card (see XI). The other copies should be filed in the same manner in a temporary working file.

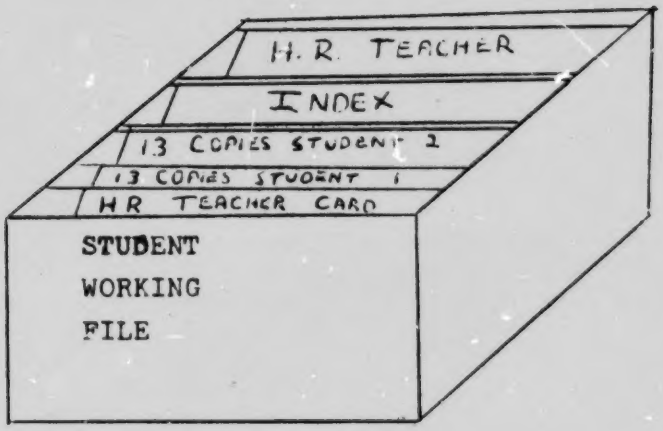
File index cards can be made by gluing two cards together so that the top ½ inch (approximately) of one card appears above the other CARDS as follows;

A TEACHER FILE INDEX CARD

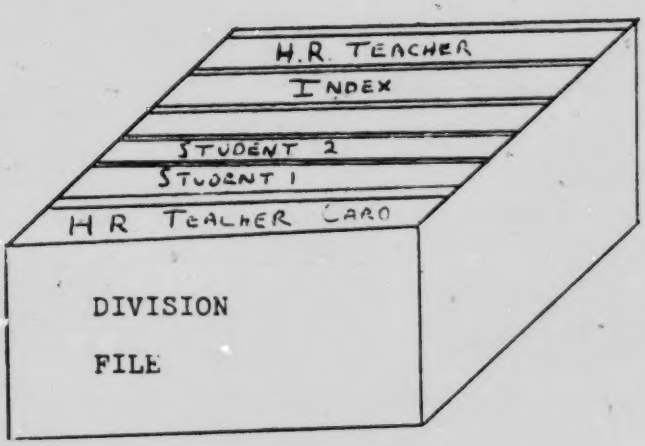


The homeroom teacher name and division is then hand-written on the index card so that it shows above the deck of cards. Index cards should be placed <u>after</u> a division deck to aid in picking up the whole deck for computer processing.

A.


H.R. TEACHER
INDEX
13 COPIES STUDENT 2
13 COPIES STUDENT 1
HR TEACHER CARD
STUDENT
WORKING
FILE

B.


H.R. TEACHER
INDEX
STUDENT 2
STUDENT 1
HR TEACHER CARD
DIVISION
FILE

V MAKE MASTER TIMETABLE

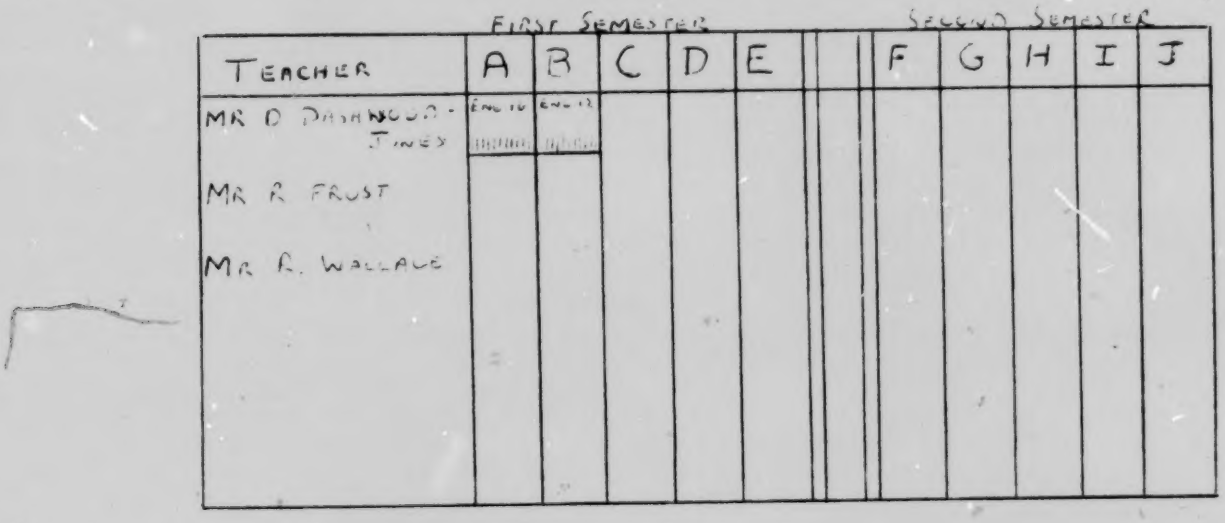
Each student should be provided with a course catalogue which explains course offerings and regulations. Group counselling is desirable at this stage to explain strategies for getting the most desirable timetable. The effect of non-compliance with regulations should also be explained at this time.

Each student then makes out a Course Planning Sheet for approval by parents and cousellor.

A tally may be made of the number of students requesting each course on the computer by simulating a timetable run-see further sections. It has been found, however, that a hand tally aids in the construction of the timetable and that computer use at this stage only contributes to duplication of effort(contrary to the claims of many commercial data processing services). Actual timetable construction and student placement by computer has been found to work against student choice in course and teacher selection. Even though these tasks are possible, along with "conflict matrices", on HARTS it has been found that experts in timetable-construction work faster and more accurately without computer use at this time. For those not expert at these tasks it should be pointed out that the computer cannot improve upon an inadequate master timetable. The reason that the computer is inappropriate for these tasks is that the number of variables is equal to the number of students times the number of possible courses for each student times the number of choices and alternate choices of teachers. It is therefore more trouble to program the computer than it is to do the tasks by hand. It is especially easy to have the student timetable himself rather than to have him write out all the elements of his basis of choice. This is our reason for favouring the "Arena" scheduling system.

A rough timetable matrix is first made in pencil on a large piece of cardboard(attached to a tackboard), with blocks along the top and teachers names down the left margin. In the squares of cardboard labelled with subject names and tallies calculated from the course planning sheets. These small squares are made by going through the course planning sheets and then making a tally on the appropriate small square as each course is listed-a new square is begun whenever a course is "full"-eg. larger than the permitted class size.

Decisions are made regarding courses to be dropped due to lack of enrollment. The small squares of "classes" are then arranged as suitably as possible. Of course it is not shown which student is represented by each tally.



In arena scheduling this is done by the student himself-but when one class is filled during arena scheduling other classes must be filled. Potential conflicts are usually obvious from a consideration of course priorities and from a perusal of the course planning sheets-but actual "course conflict matrices" seem only to contribute to the "paper war" with their massive print-outs.

Individual student counselling should then follow to advise students on specific strategies which would assure them,as individuals, of the subject and teacher choices which have highest priority. Notes can be made directly on the course planning sheet with regard to strategy and the sheet returned to the student-this is most important in arena sorting (see X). Teacher preferences should also be indicated on the sheet.

Group counselling should then follow to ensure that course selection procedures are clear.

After actual scheduling occurs the rough timetable matrix is changed, in ink, to the final form. This can be done after or during(X)as classes are filled by the person directing the scheduling. The timetable matrix thus becomes a "plan of battle" during scheduling.

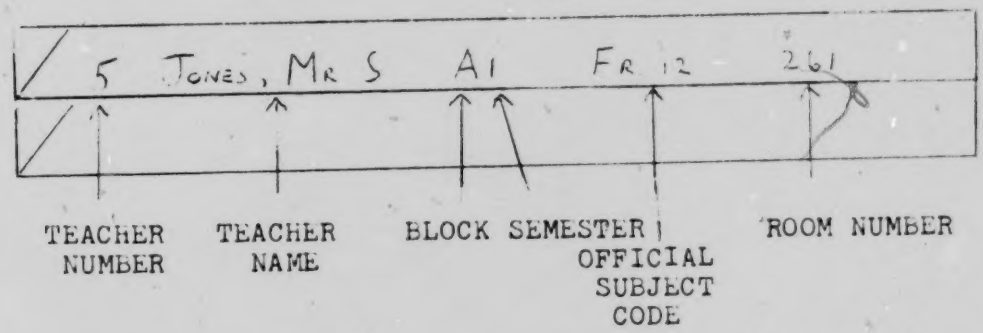
N.B. Codes for course names must be standardized. For example: if S S is chosen as the code for social studies, S.S. must not be used. Homogeneous and other special classes may have special characters attached to the course name, but should not follow the course number. eg. SS/H 12. Split classes, that is those classes which only occupy part of a block, may be indicated in the following manner. If Art is to be taken in periods 2 and 5 with P.E. in periods 1,3,and 4, then the symbol SZART could be used to indicate this. SIART would indicate that the student takes art in period 1 & 4 and P.E. in the other periods.

VI ASSIGN TEACHERS

The principal assigns ~~be~~ teachers to courses based on the results of the rough timetable matrix. A teacher index card is made out for each teacher/subject/class. Separate cards should be made if more than one course is taught by the same teacher in a class hour. Library, study, counselling, administration and homeroom class periods for which a teacher is responsible should also have separate cards for each.

The teachers are numbered 1,2,3. . . and grouped according to a subject priority system. The priority will be based on the order in which subjects should be printed on report cards and permanent record cards. Usually English teachers will have first priority and will be numbered beginning at 1. Teachers of other "constant subjects" will be numbered next, followed by teachers of "optional" courses and courses which are always "elective". Teachers who spend their entire time on non-classroom activities should be numbered last. Where a teacher teaches several subjects this teacher-numbering system will not produce subject priority printouts and computer program modification may be required.

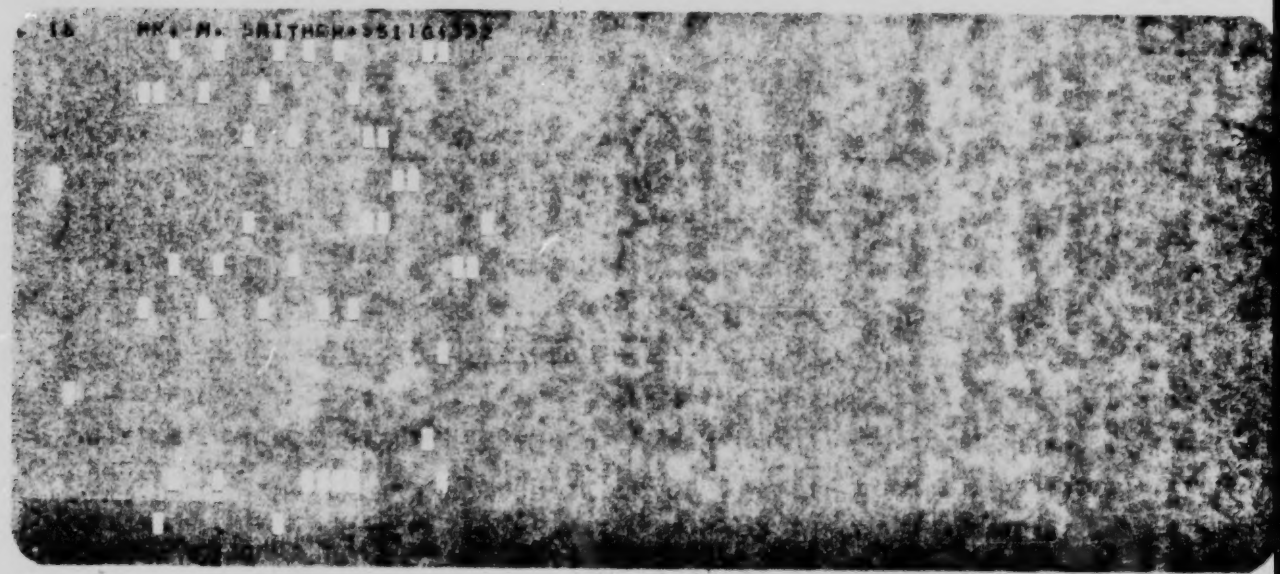
The index card made at this time should be hand prepared in felt pen. The card can then be used for key punching initially and then as an index card for class files.



VII KEYPUNCH TEACHER CARDS

At this point one should re-read the notes in section II concerning the punching of student cards. For teacher cards a new card colour should be chosen(say green for first semester, red for second).

The teacher number uses the first six spaces of the card-start at the left and fill remaining spaces with blanks. The use of separators between items is illustrated below with the information copied from the file of index cards described in section VI.



If there are 5 blocks per semester, letter the blocks A-E and F-J, using HR for homeroom.

Homogeneous and other special classes should be checked for accuracy of coding. See the note in section 5.

Library, study supervision, and administration cards should also be produced.

VIII DUPLICATE COPIES OF TEACHER CARDS

Teacher cards are duplicated in the same manner as student cards(see section III). The number of each kind should equal five more than the largest class size allowed.(Don't forget-green for first semester,red for second).

The extreme right upper edge of each teacher card should be coloured to indicate the block. This will prevent cards from getting mixed during a hand sort.

The rainbow colour code can be used so that

A&F blocks are RED

B&G " " ORANGE

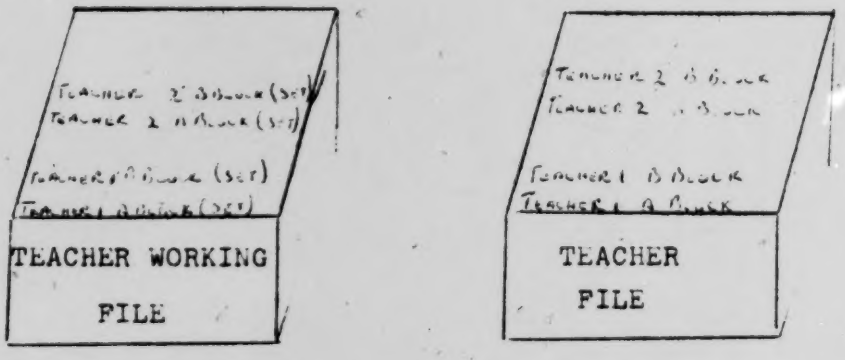
C&H " " YELLOW

D&I " " GREEN

E&J " " BLUE

IX FILING OF TEACHER CARDS

One complete set of teacher cards should be filed in numeric order. These can be used to produce teacher subject lists & to duplicate damaged cards. The other cards should be filed in the same manner in a temporary working file. The index cards made in section VI can now be used in this file.



Index cards should be placed <u>after</u> a teacher deck to aid in picking it up.

X FORMATION OF CLASS FILES & TIMETABLE FILES

A. Arena Sort

Teachers are arranged by subject at tables in the gymnasium. Each teacher has a file of teacher cards for each of his own courses. A poster at each teacher desk shows his course offerings. Each teacher has a student assistant at his table to help with filing. These teacher assistants enter the gym fifteen minutes before the other students to arrange for a timetable. It is helpful if students whose timetables are known to be difficult are made student assistants so that they have the greatest possible choice of courses.

Only one or two grades at a time can be processed. Each student enters the gym and picks up a set of his own student cards(only the necessary number) and his course planning sheet(previously prepared in counselling sessions).

An administrator sits at a desk in the middle of the gymnasium with a public address microphone ready to close sections which are filling rapidly.

Counsellors sit at desks next to the exit ready to check student card desks for completion & appropriatness.

Students go to the desk of each subject teacher whose course they require & exchange cards with the teacher. The student arranges his deck of teacher cards in block order following one copy of his own card. The teacher arranges a deck of student cards(with his assistant's help) in alphabetic order by division for each block.

The student chooses his courses and teachers within the constraints of school regulations and 'closed' courses.

The subject teacher can, to some extent, choose his students & can counsel them regarding the suitability of various classes. He can also control class size & balance within constraints imposed by the administration. In so far as is possible, a 'social contract' is drawn up as each student enrols in a course. The student accepts the teacher & the teacher accepts the student.

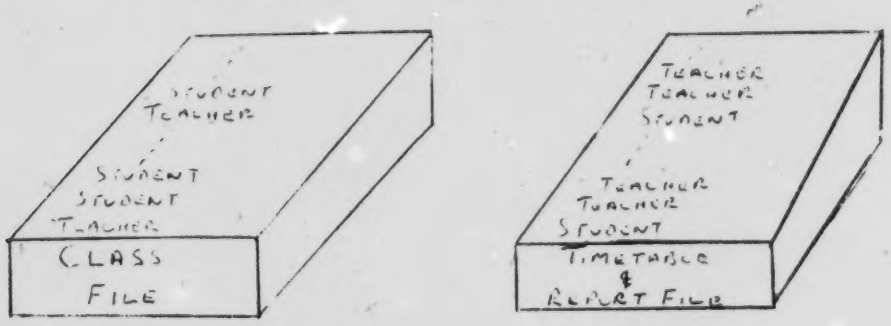
Classes are "closed" early enough so that late registrants and other special case students can be accommodated. This also provides for the filling of less popular courses

after as great an allowance as possible has been made for choice, i.e. for those whose need for a particular course does not have high priority. Appropriate teacher timetable assignment should have eliminated as many 'forced choices' as possible. Where many forced choices exist there is a need for better planning, counselling, or staff selection. If some awkward situations arise, (eg. The obvious popularity of one teacher to the detriment of another) it will provide a clear indication of areas which would have created vague problems throughout the school in any case. It is felt that it is better to face & treat these problems initially rather than after classes are formed & the source of problems obscured.

To prevent the student from avoiding prerequisite or otherwise "playing games" it should already have been explained that when this happens the student's selection form &card deck will be confiscated & timetabled by the counsellor after everyone else has had his choice. That student will have to be content with "leftovers". It is hoped that any students predisposed to such 'game playing' will learn the necessary lessons early in their school career.

At the end of the day, teachers hand in completed card decks to the counsellor.

The counsellor can now produce.



B. If hand sorting is desired, counsellors use course planning sheets to arrange cards to acheive the above results. About 200 hours are required.

XI THE ORGANIZATION OF THE FILES

A twenty drawer computer card filing cabinet will be sufficient for schools of approximately 1200 students.

CLASS FILE-TCHRS 1-21 FIRST SEMESTER	CLASS FILE-TCHRS 1-21 SECOND SEMESTER
CLASS FILE-TCHRS 22-42 FIRST SEMESTER	CLASS FILE-TCHRS 22-42 SECOND SEMESTER
CLASS FILE-TCHRS 43-60 FIRST SEMESTER	CLASS FILE-TCHRS 43-60 SECOND SEMESTER
TIMETABLE & REPORT GRADE 8	TIMETABLE & REPORT GRADE 9
TIMETABLE & REPORT GRADE 10	TIMETABLE & REPORT GRADE 11
TIMETABLE & REPORT GRADE 12	TCHR & DIVISION FILE CURRENT YEAR
TEACHER & DIVISION FILE NEXT YEAR	EXTRA TCHR CARDS
TEACHER FILE NEXT YEAR	EXTRA STUDENT CARDS
ALPHA BY SCHOOL CURRENT	ALPHA BY SCHOOL NEXT YEAR
ALPHA BY GRADE CURRENT	ALPHA BY GRADE NEXT YEAR

From these files or from a computer timetable print-out of the files, the student master cards can be filled in.

Computer print-outs may be glued in place using a glue stick or an impact printer may be used to produce the master cards directly.

XII OPENING DAY PRINT-OUTS

A. Division list sets should be produced in one of the available formats (see section XVIII) for each of the following purposes:

1. Posting at the entrances to the school for assigment of students to home rooms ('blanks' format).
2. Academic planning department-one set of address & phones.
3. Homeroom teachers' initial register (to be used until class make-up is confirmed & permanent register can be used) with blanks for marking attendance.
4. Homeroom teacher lists of ages as of Sept. 1.
5. Office manager's list of names with blanks for book rental.
6. Three copies of address & phone for office secretaries.
7. P.E. dept. lists of ages for team assignments.
8. Counselling office lists of addresses & phones-boys & girls.
9. One spare set of each type for computer room files.

B. Class list sets should be produced for each subject teacher and one set of these should be produced for the counselling office and one set for computer room files. (In case of an accident with the cards). This procedure should be repeated after courses have been in session one month & teachers asked to report any disparities so that files may be corrected and delinquent students found. These steps are repeated for the second semester. Class lists can be used as temporary course registers until class make-up is confirmed. Class lists should be printed in alphabetical order by division.

C. Timetable Print-outs (3 sets) should be produced each semester: one set for the student, one set for the office (first week emergencies) and one set for the student master card for counselling use.(Master card timetable may be printed directly if an impact printer may be used. "Division timetables" may be produced for each counsellor). The "expanded" form timetable should be used for students new to the school-the time & paper-saving "unexpanded" form should be used for all others.

N.B. Print-outs A,b,C should be produced as accurately as possible up to the day before school opening. All late registering students should be treated as "course changes". (section XV).

D. Tallies: Tallies should be updated frequently while timetabling & a tally for the counselling office should be produced one day before school opening and then at one month intervals to be posted in the counselling area to aid in programming new students. Every time class lists are made tallies are updated.

N.B. Frequent print-outs & checks of class lists will serve to identify those students who have tried to make unofficeal timetable changes.

XIII Other Print-outs

A. Report Cards

Report card blanks (see section XVIII) can be printed on the impact printer in multiple copies on special forms. If an impact printer is not available twice a year the report card blanks must be printed on the thermal printer in the desired number of copies (eg. Report card, Master Sheet, Permanent Record Card) and glued onto the forms with a glue stick. This is a time-consuming operation.

The reasons for using report card blanks (eg. name and a labelled line for each subject derived from the timetable cards) instead of a computer print-out which includes marks, are three-fold;

1. If marks are copied from mark books to mark-entry forms, even mark sense forms, there is a high incidence of transcription errors.
2. If teachers must handle the original document anyway in order to enter hand-written comments, they might as well enter the mark while entering the comment. This will prevent inconsistencies of mark and comment & will encourage the writing of comments thereby creating a better affect for both parents and students than 'canned" or coded, typed, standardized comments. The whole process is humanized by the use of personal statements.
3. There will be less handling of data-if a computer is used simply to copy data there is no "pay-off". If multiple copies (4) the handwritten marks and comments written on the first page can be distributed as non-returnable report cards. This provides three copies for the files to act as master sheets. The second copy then becomes the 'original' for the second report period showing both new & previous marks & comments. Finally, the third copy becomes a semester master sheet for office use while the fourth copy can be affixed to the permanent record card.

The mechanics of the operation can be either;

a) have students take the (unseparated) multiple copies to their subject teachers during a cycle of blocks & then return them to the homeroom teachers for attendance information, global comments, checking for completeness, and distribution.

or:

b) The copies can be filed in alphabetic homeroom order in a teacher's work room. Remember that the teachers' mark books are alphabetic by division if the original class lists were used to make up mark books.
This reporting procedure is repeated for each semester.

b. Tallies

Tallies can be produced without also producing class lists if the counsellors "lose track". Tallies are also useful for providing statistical information on class sizes to various agencies.

C. Guidance & P.E. matrix print-out

Guidance & P.E. will be handled separately from other subjects where;

i) The P.E. block is partly devoted to another elective.
ii) The 'A Block P.E. class" is really two different classes-one meeting in periods 1&4, the other in periods 2&5.
iii) Guidance classes meet at various times in various rooms. When any or all of these conditions exist, a separate set of parameters is stored as data on a magnetic tape file. This information is used in the production of timetables & may also be printed as a schedule of such classes.

D. Address Labels

These can be produced from the division file at any time & may be used for home mailings to all or to a selected section of the student body. Glue stick can be used to affix thermally printed labels but "peel off" labels used with an impact printer are preferable, (see note regarding city postal code information).

XIV Administrative Print-outs and Reports

A. Attendance: Recent studies have shown that teacher-kept attendance records are more accurate than those compiled in the office from daily or weekly reports, absentee slips, or mark-sense computer records. It is essential that parents be phoned or letters written when attandance is poor and it is desirable that this information be current and accurate due to the effect upon parental attitudes of misleading information. Our experience shows that individual teacher responsibility for attendance(with notations about parental contact) is the most satisfactory method of dealing with the problem as the teacher has all pertinent information at hand when parental contact is made. An attendance check, for example, normally involves a discussion of recent progress & office personnel are not equipped to engage in such discussions. Cumulative lates & absences should be reported by each subject teacher on the report form, & an administrative summary tape file of this information can be compiled from the office copies of the reports if the administration wishes to do a statistical review of the data. Once again, a single handling of data reduces the error rate & the labour-if separate data collection forms are used there will be about 270 sheets of paper per attendance reporting to be processed... simply in order to have a computer reproduce the results. As the report card form already exists it is the ideal data collection form for the administration to use for treating "hard-core" attendance problems.

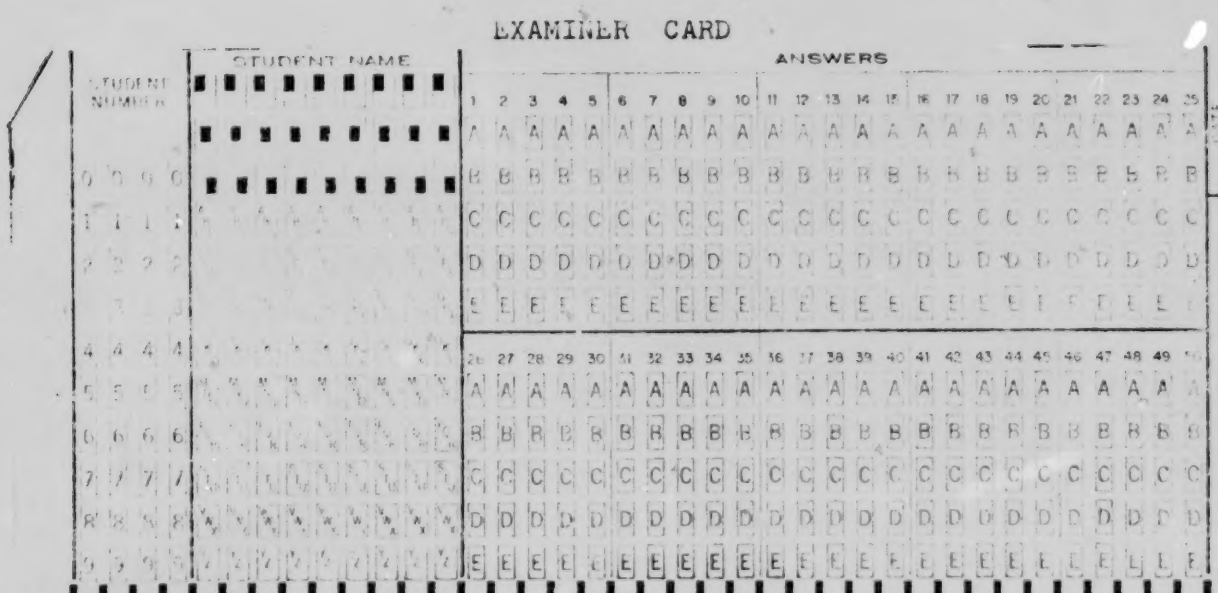
B. Marks & Distributions: Tape files can be maintained using report card data as above to ensure that teachers are not awarding too many A's or F's. The same reasoning as above will explain why data should be collected from the report form. If a check is required before the issuance of report cards, teachers can be required to hand-write a tally of the numbers of each grade awarded for each class beforehand. Discussions with the principal regarding anomolies affected at the appropriate time.

C. Other Lists: The program "List Maker" can easily be adapted for many purposes-eg. lists of failing students-etc.

D. Transcripts: Upon graduation, tape files can be created which will produce transcripts when requested. These files should not be in division order as grads will not necessarily remember their division number. Such files must be in strict alphabetic order so that the year of graduation plus the name of the student are all that are required to produce a transcript. Each graduating class should be kept on a separate tape & a copy made for storage at the school board office in case of fire or magnetic damage to the tapes. However, it is difficult to see how transcript files on magnetic tape are an improvement on the duplication of transcripts by Xerox.

E. Marking: A card format is presented for marking multiple choice exams and for doing opinion surveys with optical mark cards. The computer program for this was written by Richard Currie and it is particularly useful in the social sciences.

The print out for exam marking lists each student's name, raw score, and %. An analysis of the results is then printed. This analysis is the only part used in opinion surveys. It lists the question numbers and then reports the percentage of respondents answering choices A to E and also the percentage leaving a blank or making a multiple response. In the social studies class local data can be collected & analysed with little labour whenever a question arises in class. The same card is used for both test marking & surveys, but of course a name & number are not used in surveys.



F. Division Timetable: This is simply a division list with each student's timetable in abbreviated form.

Division 81

Name	A/F	B/G	C/H	D/I	E/J
Adams, Albert	Ma8 10 250	---First Semester Subject Teacher Number Room No.			
	SS8 44 350	---Second Semester			
Andrews, Sally					

etc.

These lists are a handy quick reference for office & counselling staff.

XV Enrollments, Changes, Additions Deletions and Updates

A. How to enrol a student.

A white paper(not card) copy of the student master card is filled out by hand with all student personal information.

Division number is assigned by the counsellor. The division lists in the counselling office will assist in finding room in a division and in choosing the next consecutive number. DO NOT REASSIGN NUMBERS OF WITHDRAWN STUDENTS.
See II for an explanation of student numbers.

Locker number is assigned by the business manager (During the summer this is left blank and entered later from the text book rental form).

All personal information must be completed before a student is considered enrolled. If necessary have the student make phone calls for information or make an appointment to return to the office with missing information. In any case, do not file incomplete forms put them in a "pending" tray.

Courses-The student and his white master form should go to the counsellor to get an individual timetable. The white card is filled in & returned to the student and a Course Change form is also filled in. The top copy of this course change form must be shown to each teacher to gain admittance to the class. The second copy of the course change form is stapled to the white master card form and is sent to the office so that:

1. the permanent master can be typed with both personal and timetable information on a card(blue for boy, pink for girl)
2. the original form can be circulated through the teachers letter boxes-each teacher initialling his own subject to indicate his notification and passing on to the next teacher. The last teacher puts the originals into the 'office returns" box in the office. The secretary then passes these originals on to the counselling office to indicate that it has been circulated and so that i)cards can be keypunched for the student
   ii)division, class, and timetable files may be completed

Place cards at the end of decks-new students records are then easily found-the computer is capable of alphabetizing later where required.

3. Original documents are then filed in the counselling area.

b. How to Change a Student Record

-change of name, course, information, division.

A course change form is filled out for every change by a cousellor. The first copy goes to the student to show to appropriate teachers. The second copy circulates to all teachers listed in both the FROM column and the TO column through the mail boxes. Teachers initial their own names to indicate notification and the last teacher places the change form in the "office returns" box. This copy is then used to update the student master file and then is sent to the counselling to update division, class and timetable files.
(a third copy may be used for this)

These course change forms are the only entry and exit permits. Teachers must insist on seeing them and under no circumstance should they change their records without seeing them.

C,D,E, Additions, Deletions, and Updates are accomplish as in B above with explanatory notes on the bottom of the form, if necessary. Notes should be initialled by appropriate personnel.

XVI PHILOSOPHY

A. Administration

A. The reasons for many steps in the foregoing are included with the relevant descriptions. It might now be added however that many of the approaches which are advised against have been tried on the LARTS I system and rejected for various good reasons. Numerous alternative approaches which may suggest themselves to the reader have been rejected because of reported experiences of other schools-other approaches which may occur to the reader may be original-if this is suspected the author would be pleased to hear from such readers.

However, certain broad principles emerge;

a) It is not worth the trouble to use a computer to copy information for a "one-shot" use.
b) Carbon paper saves multiple copies.
c) Use tape files rather than print-out files. They are current, in appropriate format, and require no storage or filing.
d) All print-outs should be dated as well as all programs("most recent" is hardly descriptive for obvious reasons). It is worth being very picky about this.
e) Original data should be used instead of copied data.
f) Resist the temptation to offer print-outs to everyone. Especially do not provide catalogues which allow 'tick-offs' for requests for copying. Paper costs will soar and computer turnaround time will suffer. Many requests for service are trivial.
g) Resist adding new types of files because 'they would be nice to have". This is counter-productive to the benefits of computing. The natural conservatism of administrators encourages them to have copies of everything. Computer enthusiasts tend to want the machine to do anything it can do. It is well to advise such people that you can crack walnuts with steamrollers-if you must.

B. Computers for the Whole School

The author has published several papers on this theme. It is sufficient here to note that the computer described here uses no more then 20% of the computer's time or budget.

C. Math-the Servant

Mathematics has been described as the 'Queen and Servant of the Sciences'. In many cases the Queen is more in evidence(with all her mystique) than the servant(with all her benefits). The design & operation of the HARTS system can largely be the responsibility of the Math Dept.-its contribution to the school. This is not only good public relations for the school and for Mathematics but also gives an opportunity for the Math Student to see some practical applied mathematics. It makes the subject less elitist & more 'practical' (to those who are impressed by this consideration). It also saves money.

For those who doubt that HARTS is basically a mathematical product, the author would suggest that the programs in section XVII be examined. It should be noticed that many properties of numbers are used (abs,<,>,int etc).

XVII - DOCUMENTED PROGRAMS & COMPUTER FILE FORMATION

APPENDIX A

File 1 - LIST OF HARTS FILES

```
10 FORMAT 15X
20 FORMAT 30X
30 WRITE (15,20)"LISTS OF HARTS FILES"
40 WRITE (15,10)
50 WRITE (15,10)"FILE #      FILES TITLES                    SIZE"
60 WRITE (15,10)
70 WRITE (15,10)"    0       SPARE                           3800"
80 WRITE (15,10)"    1       LIST OF HARTS FILES             1200"
90 WRITE (15,10)"    2       DIVISON LIST                    1700"
100 WRITE (15,10)"   3        CLASS LIST                      1200"
110 WRITE (15,10)"   4        DATA FILE  Y(65,10)              700"
120 WRITE (15,10)"   5        DATA FILE  T(65,15)             1000"
130 WRITE (15,10)"   6        TALLY PRINT OUT                  300"
140 WRITE (15,10)"   7        TALLY MARK UP                    200"
150 WRITE (15,10)"   8        GUIDANCE PRINT-OUT & MAKER       800"
160 WRITE (15,10)"   9        DATA FILE  G( 7,10)              100"
170 WRITE (15,10)"  10        DIV. & TEACHER TIME TABLE (S)    300"
180 WRITE (15,10)"  11        DIVISION TIME TABLE (M)          700"
190 WRITE (15,10)"  12        DIV. & TEACHER TIME TABLE (P)    500"
200 WRITE (15,10)"  13        TEACHER TIME TABLE (M)           500"
210 WRITE (15,10)"  14        UNEXPANDED TIME TABLE           1000"
220 WRITE (15,10)"  15        EXPANDED TIME TABLE             2400"
230 WRITE (15,10)"  16        LIST MAKER                       300"
240 WRITE (15,10)"  17        ADDRESSOGRAPH                    500"
250 WRITE (15,10)"  18        NEW REPORT CARD                 1400"
260 WRITE (15,10)"  19        TEACHER LIST                     500"
270 WRITE (15,10)
280 WRITE (15,10)
290 WRITE (15,10)
300 WRITE (15,10)LIN2
310 DISP "INPUT FILE # YOU WANT -1 IF NONE";
320 INPUT F
330 IF F=-1 THEN 350
340 LOAD F
350 END
```

File 2 - DIVISION LIST

A-2

```
10 DIM A$[80],B$[80],C$[20],E$[80],F$[80],MI[40,40],OI[40,1],G$[80],D$[10]
20 FORMAT 33X,3F3.0
30 P=0
40 E$[1,59]="....................................!...!...!...!...!...!....."
50 DISP "INPUT DATE";
60 INPUT C$
70 DISP "HOW MANY COPIES DO YOU WANT";
80 INPUT C
90 DISP "DO YOU WANT ALPHA ORDER";
100 INPUT F$
110 IF F$[1,2]="NO" THEN 140
120 IF F$[1,3]#"YES" THEN 90
130 P=1
140 DISP "1(ADDRESS), 2(ABS), OR 3(BIRTH)";
150 INPUT D
160 GOTO D OF 200,200,180
170 GOTO 140
180 DISP "AS OF WHAT DATE (EG. 31,09,75)";
190 INPUT D2,M2,Y2
200 DISP "ARE THE CARDS IN THE HOPPER";
210 INPUT F$
220 IF F$[1,3]#"YES" THEN 200
230 WRITE (1,*)"D"
240 ENTER (1,*)F$
250 GOTO 270
260 F$=A$
270 F=1
280 WRITE (1,*)"D"
290 ENTER (1,*)A$
300 IF VAL(A$[1,5])=0 THEN 1120
310 IF ABS(VAL(A$[1,6]))<56 THEN 1120
320 L=POS(A$,"?")
330 IF L=0 THEN 350
340 A$[L,L]=" "
350 B$[1,40]="
360 B$[41,80]="
370 B$[1,6]=A$[1,6]
380 E=POS(A$,"@")
390 I=POS(A$,"*")
400 J=POS(A$,"%")
410 IF J#0 THEN 430
420 J=POS(A$,"(")
430 B$[9,E+2]=A$[7,E-1]
440 GOTO D OF 670,450,470
450 B$[E+3,59]=E$[E+3,59]
460 GOTO 720
```

```
470 IF A$[J+1,J+1]#" " THEN 500
480 B$[33,80]="????????????????????????????????????????????????"
490 GOTO 720
500 B$[E+3,32]=E$[E+3,32]
510 B$[33,34]=A$[J+1,J+2]
520 D1=VAL(A$[J+1,J+2])
530 B$[35,35]="/"
540 B$[36,37]=A$[J+3,J+4]
550 M1=VAL(A$[J+3,J+4])
560 B$[38,38]="/"
570 B$[39,40]=A$[J+5,J+6]
580 Y1=VAL(A$[J+5,J+6])
590 B$[41,55]=E$[1,15]
600 M=((Y2*12)+M2+(D2/30))-((Y1*12)+M1+(D1/30))
610 OUTPUT (D$,*)INT(M/12)
620 B$[56,57]=D$[2,3]
630 B$[58,59]=" /"
640 OUTPUT (D$,*)INT(M-((INT(M/12))*12)+0.5)
650 B$[60,61]=D$[2,3]
660 GOTO 720
670 B$[34,34+(I-(E+1))]=A$[E+1,I-1]
680 IF J-I=2 THEN 720
690 B$[65,67]=A$[I+1,I+3]
700 B$[68,68]="-"
710 B$[69,72]=A$[I+4,I+7]
720 TRANSFER B$[1,80] TO MLF,1
730 IF P=0 THEN 1070
740 IF F#1 THEN 760
750 GOTO 870
760 A=1
770 B=F
780 IF B$[9,9]#"M" THEN 840
790 IF B$[9,11]="MAC" THEN 830
800 IF B$[9,11]="MC " THEN 830
810 IF B$[9,10]#"MC" THEN 840
820 B$[12]=B$[11,79]
830 B$[10,11]="  "
840 TRANSFER M[O[F-1,1],1] TO G$
850 GOSUB 1400
860 IF G$[9]>B$[9] THEN 890
870 O[F,1]=F
880 GOTO 1070
890 TRANSFER M[O[1,1],1] TO G$
900 GOSUB 1400
910 IF G$[9]<B$[9] THEN 940
920 B=1
930 GOTO 1030
940 IF B-A=1 THEN 1030
950 Q=INT((B+A)/2)
960 TRANSFER M[O[Q,1],1] TO G$
970 GOSUB 1400
980 IF G$[9]<B$[9] THEN 1010
990 B=Q
1000 GOTO 940
1010 A=Q
1020 GOTO 940
1030 FOR Z=F TO B+1 STEP -1
1040 O[Z,1]=O[Z-1,1]
1050 NEXT Z
1060 O[B,1]=F
1070 F=F+1
1080 IF F<41 THEN 280
1090 DISP "ROOM FOR NO MORE STUDENTS"
1100 PRINT LIN1
1110 END
```

```
1120 WRITE (1,*)"S"
1130 FOR X=1 TO C
1140 PRINT LIN2
1150 PRINT F$[7,POS(F$,"@")-1];TAB32;
1160 PRINT C$[1,20];TAB64;
1170 PRINT "DIV "F$[POS(F$,"*")+1,POS(F$,"(")-1]
1180 PRINT "ROOM "F$[POS(F$,"(")+1,POS(F$,"(")+4];TAB64;
1190 PRINT "GRADE "F$[POS(F$,"*")+1,POS(F$,"(")-2]
1200 PRINT TAB30"76-77 DIVISION LIST"LIN1
1210 GOTO D OF 1270,1220,1240
1220 PRINT TAB33"FRI MON TUE WED THU TOTAL"
1230 GOTO 1270
1240 PRINT TAB54"AGE AS OF"
1250 WRITE (15,20)"BIRTHDATE              "D2"/"M2"/"Y2
1260 PRINT TAB32"DA/MO/YEAR            YEARS & MONTHS"
1270 FOR Y=1 TO F-1
1280 IF P=0 THEN 1310
1290 TRANSFER M[O[Y,1],1] TO B$
1300 GOTO 1320
1310 TRANSFER M[Y,1] TO B$
1320 PRINT B$
1330 NEXT Y
1340 PRINT LIN10
1350 WAIT 2000
1360 NEXT X
1370 IF VAL(A$[1,3])=0 THEN 1100
1380 GOTO 260
1390 END
1400 IF G$[9,9]#"M" THEN 1460
1410 IF G$[9,11]="MAC" THEN 1450
1420 IF G$[9,11]="MC " THEN 1450
1430 IF G$[9,10]#"MC" THEN 1460
1440 G$[12]=G$[11,79]
1450 G$[10,11]="  "
1460 RETURN
```

File 3 - Class List A-5

```
10 DIM A$[80],B$[10],C$[80],D$[80],G$[80],F$[32],D[50,16],Y[65,10],Y$[20]
20 FORMAT 7X,B
30 FORMAT 39X," FRI MON TUE WED THU TOTAL"
40 MAT Y=ZER
50 LOAD  DATA 4,Y
60 DISP "FORM 1(ABS), 2(LIN), OR 3(SQRS)";
70 INPUT R
80 C$[1,14]="..............."
90 GOTO R OF 150,130,110
100 GOTO 60
110 C$[15,73]="...............!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!.!."
120 GOTO 160
130 C$[15,73]="............................................................."
140 GOTO 160
150 C$[15,73]="!.....!.....!...!...!...!...!...!.....!"
160 B$="ABCDEFGHIJ"
170 DISP "INPUT DATE";
180 INPUT Y$
190 DISP "HOW MANY COPIES DO YOU WANT ";
200 INPUT C
210 DISP "ARE THE CARDS IN THE HOPPER";
220 INPUT A$
230 IF A$[1,3]#"YES" THEN 210
240 WRITE (1,+)"D"
250 ENTER (1,*)A$
260 GOTO 360
270 X=(POS(D$,"@"))+1
280 N=F+N
290 Y[VAL(D$[1,3]),(POS(B$,D$[X,X]))]=N
300 GOTO 580
310 PRINT LIN2
320 WAIT 5000
325 IF A$[1,6]#D$[1,6] THEN 360
330 IF A$[POS(A$,"@")+1,POS(A$,"@")+1]#D$[POS(D$,"@")+1,POS(D$,"@")+1] THEN 360
340 F=0
350 GOTO 370
360 N=F=0
370 D$=A$
380 WRITE (1,+)"D"
390 ENTER (1,*)A$
400 IF VAL(A$[1,5])=0 THEN 270
410 IF ABS(VAL(A$[1,6]))<61 THEN 270
420 G$[1,6]=A$[1,6]
430 G$[7,8]="  "
440 G$[9,POS(A$,"@")+2]=A$[7,(POS(A$,"@"))-1]
450 G$[POS(A$,"@")+2,73]=C$[POS(A$,"@")+2,73]
460 TRANSFER G$[1,32] TO D[F+1,1]
470 F=F+1
480 IF F<51 THEN 380
490 DISP "ROOM FOR NO MORE STUDENTS"
500 PRINT LIN2
510 STORE  DATA 4,Y
```

```
520 DISP " DO YOU WANT TALLY";
530 INPUT A$
540 IF A$="NO" THEN 570
550 IF A$#"YES" THEN 520
560 LOAD 6
570 END
580 WRITE (1,*)"S"
590 FOR X=1 TO C
600 PRINT LIN2
610 PRINT TAB37"CLASS LIST"
620 PRINT TAB30"NUMBER OF STUDENTS ="F
630 S=POS(D$,"*")
640 PRINT TAB7;D$[1,POS(D$,"@")-1];TAB55;
650 PRINT "BLOCK "D$[POS(D$,"@")+1,POS(D$,"*")-1];
660 IF D$[S+2,S+2]="/" THEN 710
670 IF D$[S+2,S+2]>="A" THEN 710
680 PRINT " SPLIT "D$[S+2,S+2]
690 PRINT TAB13"COURSE "D$[S+3,POS(D$,"%")-1];TAB35;
700 GOTO 730
710 PRINT " "
720 PRINT TAB13;"COURSE  D$[S+1,POS(D$,"(")-1];TAB35;
730 PRINT Y$;TAB55;
740 IF D$[S+1,S+2]#"PE" THEN 770
750 PRINT "IN THE GYM"
760 GOTO 810
770 IF D$[S+1,S+3]#"STC" THEN 800
780 PRINT "ON THE STAGE"
790 GOTO 810
800 PRINT "ROOM # "D$[POS(D$,"(")+1,POS(D$,"(")+5]
810 PRINT LIN1
820 IF R#1 THEN 840
830 WRITE (15,30)
840 FOR Y=1 TO F
850 TRANSFER D[Y,1] TO F$
860 G$[1,32]=F$[1,32]
870 G$[33,73]=C$[33,73]
880 WRITE (15,20)G$,0
890 NEXT Y
900 PRINT LIN9
910 NEXT X
920 IF VAL(A$[1,5])=0 THEN 500
930 GOTO 310
940 END
```

```
10 DIM Y[65,10],T[65,15],D$[20],T$[26],B$[14],E$[50] File 6 -TALLY PRINT OUT  A-7
20 MAT Y=ZER
30 MAT T=ZER
40 E$="A   B   C   D   E   F   G   H   I   J "
50 LOAD  DATA 4,Y
60 LOAD  DATA 5,T
70 BEEP
80 DISP "WHAT IS TODAYS DATE";
90 INPUT D$
100 DISP "HOW MANY COPIES DO YOU WANT";
110 INPUT C
120 FOR X=1 TO C
130 PRINT TAB34"TALLY SHEET"
140 PRINT D$;LIN2
150 PRINT TAB33;E$;LIN1
160 FOR Y=1 TO 60
170 TRANSFER T[Y,1] TO T$[1,26]
180 PRINT Y;T$;TAB32;
190 FOR Z=1 TO 10
200 IF Y[Y,Z]#0 THEN 240
210 PRINT "    ";
220 IF Z=10 THEN 340
230 GOTO 290
240 OUTPUT (B$,*)Y[Y,Z]
250 PRINT B$;
260 IF VAL(B$)>9 THEN 290
270 PRINT "   ";

280 GOTO 330
290 IF VAL(B$)>99 THEN 320
300 PRINT " ";
310 GOTO 330
320 PRINT "";
330 NEXT Z
340 PRINT " "
350 NEXT Y
360 PRINT LIN5
370 NEXT X
380 END
```

TALLY MARK-UP FILE 7 A-8

```
10 DIM Y[65,10],B$[10]
20 MAT Y=ZER
30 LOAD  DATA 4,Y
40 B$="ABCDEFGHIJ"
50 DISP "INPUT TEACHER #   -1 IF DONE";
60 INPUT T
70 IF T=-1 THEN 160
80 DISP "BLOCK";
90 INPUT P$
100 DISP "CHANGE(+ OR - HOW MANY STUDENTS)";
110 INPUT S
120 P=POS(B$,P$[1,1])
140 Y[T,P]=Y[T,P]+S
150 GOTO 50
160 STORE  DATA 4,Y
170 DISP "DO YOU WANT TALLY PRINT OUT ";
180 INPUT B$
190 IF B$[1,2]="NO" THEN 220
200 IF B$[1,3]#"YES" THEN 170
210 LOAD 6
220 END
```

FILE 8 - GUIDANCE PRINT-OUT & MAKER

```
10 DIM GI[7,10],G$[14],A$[2],B$[10],C$[6],T$[26],TI[65,15],D$[20]
20 B$="ABCDEFGHIJ"
30 G$="15161718192021"
40 MAT G=ZER
50 LOAD  DATA 9,G
60 DISP "ANY GUIDANCE SCHEDULE CHANGES";
70 INPUT C$
80 IF C$="NO" THEN 330
90 IF C$#"YES" THEN 60
100 DISP "INPUT TEACHER # ( -1=DONE )";
110 INPUT A$
120 IF A$="-1" THEN 280
130 G=(POS(G$,A$)+1)/2
140 FOR B=1 TO 10
150 DISP "GUIDANCE DAY BLOCK "B$[B,B]" (K=KEEP)";
160 INPUT A$
170 IF A$="K" THEN 260
180 IF A$>="A" THEN 150
190 D=VAL(A$)
200 IF D#0 THEN 230
210 G[G,B]=0
220 GOTO 260
230 DISP "ROOM NUMBER";
240 INPUT R
250 G[G,B]=(D*1000)+R
260 NEXT B
270 GOTO 100
```

```
280 STORE  DATA 9,G
290 DISP "DO YOU WANT PRINT OUT";
300 INPUT C$
310 IF C$[1,2]="NO" THEN 710
320 IF C$[1,3]#"YES" THEN 290
330 DISP "HOW MANY COPIES WOULD YOU LIKE";
340 INPUT C
350 DISP "WHAT IS TODAYS DATE";
360 INPUT D$
370 LOAD  DATA 5,T
380 FOR Z=1 TO C
390 PRINT TAB30"GUIDANCE SCHEDULE 76-77"
400 PRINT TAB33;D$;LIN1
410 PRINT TAB30"! A ! B ! C ! D ! E ! F ! G ! H ! I ! J !"
420 FOR X=1 TO 7
430 PRINT TAB10".....!...!...!...!...!...!...!...!...!...!"
440 TRANSFER T[VAL(G$[(X*2)-1,X*2]),1] TO T$
450 PRINT TAB10;G$[(X*2)-1,X*2];" ";T$[1,16];" !";
460 FOR Y=1 TO 10
470 IF G[X,Y]#0 THEN 500
480 PRINT "    !";
490 GOTO 530
500 OUTPUT (C$,*)INT(G[X,Y]/1000)
510 PRINT C$[1,3];
520 PRINT " !";
530 NEXT Y
540 PRINT " "
550 PRINT TAB30;"! ";
560 FOR Y=1 TO 10
570 IF G[X,Y]#0 THEN 600
580 PRINT "    !";
590 GOTO 630
600 OUTPUT (C$,*)G[X,Y]-(INT(G[X,Y]/1000))*1000
610 PRINT C$[2,4];
620 PRINT "!";
630 NEXT Y
640 PRINT " "
650 NEXT X
660 PRINT TAB10".....!...!...!...!...!...!...!...!...!...!"
670 PRINT TAB13"MR. DARBY"TAB44"2"
680 PRINT TAB43"401"
690 PRINT LIN2
700 NEXT Z
710 END
```

FILE 10 - DIV & TEACHER TIMETABLE A-11

```
10 DIM A$[80],B$[12],C$[80],D$[30],N$[30],R$[80],S$[16],T$[8]
20 DIM PI[38,55],RS[38,10]
30 B$="ABCDEFGHIJXY"
40 DISP "TYPE NO. OF COPIES & THEN DATE";
50 INPUT C,D$
60 DISP "TYPE 1-TEACHER  2-STUDENT T.T.";
70 INPUT T
80 DISP "ARE THE CARDS READY";
90 INPUT A$
100 IF A$#"YES" THEN 80
110 WRITE (1,*)"D"
120 ENTER (1,*)A$
130 IF POS(A$,"@HR*")#0 THEN 110
140 IF T=2 THEN 180
150 T$="TEACHERS"
160 LINK 13
170 END
180 T$="DIVISION"
190 LINK 11
200 END
```

FILE11 - DIVISION TIME TABLE

A-12

```
10 MAT P=ZER
20 MAT R=ZER
30 N=ABS(VAL(A$[1,4]))
40 F=1
50 N$="                                                                "
60 S$=N$[1,16]
70 C$[1,40]="                                        "
80 C$[41,80]=C$[1,40]
90 H=L=M=P=0
95 R1=R2=1
100 N$[1,6]=A$[1,6]
110 N$[8,30]=A$[7,POS(A$,"@")-1]
120 WRITE (1,*)"D"
130 ENTER (1,*)A$
140 IF POS(A$,"PE8")#0 THEN 120
150 IF A$[1,2]#"!5" THEN 170
160 A$[1,2]="15"
170 IF ABS(VAL(A$[1,6]))>60 OR VAL(A$[1,5])=0 THEN 400
180 H=POS(A$,"@")+1
190 P=POS(B$,A$[H,H])
200 L=POS(A$,"*")+1
210 M=POS(A$,"(")-1
220 IF M>0 THEN 240
230 M=POS(A$,"%")-1
240 R=(VAL(A$[1,2])*1000)+(VAL(A$[M+2,M+4]))
250 IF P>10 THEN 330
260 R[F,P]=R
270 P=(P*8)-7
280 IF C$[P,P]=" " THEN 310
290 C$[P+7,P+7]="*"
300 GOTO 320
310 C$[P,P+7]=A$[L,M]
320 GOTO 390
330 P=((P-10)*8)-7
340 S$[P,P+7]="STUDY   "
350 IF P=9 THEN 380
360 R1=R
370 GOTO 390
380 R2=R
390 GOTO 120
400 FOR I=1 TO 10
410 P=(I*8)-7
420 IF C$[P,P]#" " THEN 490
430 IF P<41 THEN 470
440 C$[P,P+7]=S$[9,16]
450 R[F,(P+7)/8]=R2
460 GOTO 490
470 C$[P,P+7]=S$[1,8]
480 R[F,(P+7)/8]=R1
490 NEXT I
500 TRANSFER N$ TO P[F,1]
510 TRANSFER C$ TO P[F,16]
520 F=F+1
530 IF N=ABS(VAL(A$[1,4])) THEN 50
540 WRITE (1,*)"S"
550 LINK 12
560 END
```

FILE 12 - DIV & TEACHER TIME TABLE

A-13

```
10 FOR X=1 TO C
20 S=160
30 PRINT LIN2"DIV";N;TAB15;"76-77 ";T$;" TIME TABLE";TAB55;D$,LIN1
40 PRINT TAB33"A/F      B/G      C/H      D/I      E/J"LIN1
50 FOR Y=1 TO F-1
60 R$[1,40]="                                        "
70 R$[41,80]=R$[1,40]
80 FOR Z=1 TO 10
90 OUTPUT (S$,*)INT(R[Y,Z]/1000)
100 IF VAL(S$)#0 THEN 130
110 S$="   "
120 GOTO 140
130 IF VAL(S$)<10 THEN 160
140 R$[(Z*8)-6,(Z*8)-5]=S$[2,3]
150 GOTO 170
160 R$[(Z*8)-6,(Z*8)-6]=S$[2,2]
170 OUTPUT (S$,*)((R[Y,Z]/1000)-INT(R[Y,Z]/1000))*1000
180 IF VAL(S$)>1 THEN 240
190 IF T=2 AND VAL(S$)=0 THEN 220
200 S$[2,4]="   "
210 GOTO 270
220 S$[2,4]="GYM"
230 GOTO 270
240 IF S$[2,4]#"999" THEN 270
250 S$[2,4]="LIB"
260 GOTO 270
270 R$[(Z*8)-3,(Z*8)-1]=S$[2,4]
280 NEXT Z
290 TRANSFER P[Y,1] TO N$
300 TRANSFER P[Y,16] TO C$
310 PRINT N$;TAB32;C$[1,40]
320 PRINT TAB31;R$[1,40]
330 PRINT TAB32;C$[41,80]
340 PRINT TAB31;R$[41,80]
350 S=S-4
360 NEXT Y
370 FOR R=1 TO S
380 PRINT
390 NEXT R
400 WAIT 3000
410 NEXT X
420 IF T=1 THEN 450
430 LINK 11
440 END
450 LINK 13
460 END
```

```
10 DIM GI[7,10],CI[14,17],R$[6],F$[5],D$[80],H$[1]
20 DIM A$[80],B$[12],G$[14],S$[15],C$[8],T$[26],Q$[30]
30 LOAD  DATA 9,G
40 G$="151617181920 21"
50 S$="MONTUEWEDTHUFRI"
60 DISP "HOW MANY COPIES DO YOU WANT";
70 INPUT C
80 DISP "ARE THE CARDS IN THE HOPPER";
90 INPUT A$
100 IF A$[1,3]#"YES" THEN 80
110 WRITE (1,*)"D"
120 ENTER (1,*)A$
130 IF ABS(VAL(A$[1,6]))>60 THEN 170
140 GOSUB 1500
150 DISP "LEAD CARD IS NOT A STUDENT CARD";
160 END
170 MAT C=ZER
180 G=G1=S=S1=S2=K1=K2=B=D=N=T=0
190 B$="ABCDEFGHIJXY"
200 WRITE (1,*)"D"
210 ENTER (1,*)D$
211 IF D$[1,2]#"!5" THEN 220
212 D$[1,2]="15"
220 IF ABS(VAL(D$[1,6]))>60 OR VAL(D$[1,5])=0 THEN 660
230 H=POS(D$,"@")+1
240 P=POS(B$,D$[H,H])
250 L=POS(D$,"*")+1
260 M=POS(D$,"(")
270 A=POS(D$,")")
280 IF A=0 THEN 360
290 D=D+1
300 D$[A,A]=""
310 IF D#1 THEN 360
320 P=13
330 T=POS(B$,D$[H,H])
340 IF T<6 THEN 360
350 T=T-5
360 C$=D$[L,M-1]
370 T$=D$[7,H-2]
380 IF C$[2,2]="/" THEN 490
390 IF C$[2,2]>="A" THEN 490
400 IF S#0 THEN 200
410 B=P
420 S=VAL(C$[2,2])
430 H$=B$[P,P]
440 Q$=C$[3,8]
450 Q$[(LEN(Q$))+1,(LEN(Q$))+1]=" "
460 Q$[5]=T$
470 R=VAL(D$[M+1])
480 GOTO 200
490 IF C[P,1]=0 THEN 530
500 GOSUB 1500
510 DISP "THERE IS MORE THAN ONE "D$[H,H]" BLOCK";
520 END
530 IF POS(C$,"PE")=0 THEN 580
540 IF P>5 OR P=12 THEN 570
550 G=G[(POS(G$,D$[1,2])+1)/2,P]
560 GOTO 580
570 G1=G[(POS(G$,D$[1,2])+1)/2,P]
580 TRANSFER C$ TO C[P,1]
590 TRANSFER T$ TO C[P,5]
600 C[P,17]=VAL(D$[M+1])
610 IF P=11 OR P<6 THEN 640
620 S2=1
630 GOTO 650
```

A45

```
640 S1=1
650 GOTO 200
660 WRITE (1,*)"S"
670 FOR X=1 TO C
680 PRINT TAB31"76-77 TIMETABLE FOR"LIN1
690 PRINT A$[7,(POS(A$,"@")-1];TAB55"STUDENT #  "A$[1,6];LIN1
700 IF S2#0 THEN 750
710 PRINT TAB14"SEMESTER 1"TAB50"****EARLY GRAD****"
720 PRINT "BLOCK"
730 K1=K2=1
740 GOTO 840
750 IF S1#0 THEN 800
760 PRINT TAB31"SEMESTER 2"
770 PRINT TAB17"BLOCK"
780 K1=K2=2
790 GOTO 840
800 PRINT TAB14"SEMESTER 1"TAB54"SEMESTER 2"
810 PRINT "BLOCK"TAB40"BLOCK"
820 K1=1
830 K2=2
840 FOR Y=1 TO 5
850 FOR Z=K1 TO K2
860 C$="
870 IF N=1 THEN 890
880 IF C[((Z-1)*5)+Y,1]#0 THEN 1050
890 IF Z=2 THEN 920
900 P=1
910 GOTO 930
920 P=2
930 IF N#1 THEN 1010
940 TRANSFER C[12+P,1] TO C$
950 TRANSFER C[12+P,5] TO T$
960 OUTPUT (R$,*)C[12+P,17]
970 IF Z#2 THEN 990
980 N=N+1
990 B$[T+6,T+6]=" "
1000 GOTO 1080
1010 TRANSFER C[10+P,5] TO C$
1020 T$[1,21]="
1030 OUTPUT (R$,*)C[10+P,17]
1040 GOTO 1080
1050 TRANSFER C[((Z-1)*5)+Y,1] TO C$
1060 TRANSFER C[((Z-1)*5)+Y,5] TO T$
1070 OUTPUT (R$,*)C[((Z-1)*5)+Y,17]
1080 IF VAL(R$)#0 THEN 1150
1090 IF C$[1,3]#"STC" THEN 1120
1100 R$=" STG"
1110 GOTO 1150
1120 R$="
1130 IF POS(C$,"PE")=0 THEN 1150
1140 R$=" GYM"
1150 IF POS(C$,"STUDY")=0 THEN 1170
1160 R$=" LIB"
1170 IF K1#2 THEN 1200
1180 PRINT TAB19;B$[((Z-1)*5)+Y,((Z-1)*5)+Y]"   "C$[1,8]""T$[1,21];R$[1,6]
1190 GOTO 1210
1200 PRINT "   "B$[((Z-1)*5)+Y,((Z-1)*5)+Y]"    "C$[1,8]""T$[1,21];R$[1,6]" ";
1210 NEXT Z
1220 PRINT ""
1230 IF T#Y THEN 1270
1240 N=N+1
1250 T=T-1
1260 GOTO 850
```

FILE 14 CONT

A-
A-16

```
1270 NEXT Y
1280 IF S=0 THEN 1310
1290 GOSUB 1540
1300 GOTO 1440
1310 FOR G2=1 TO 2
1320 IF G2#1 THEN 1350
1330 IF G#0 THEN 1380
1340 GOTO 1360
1350 IF G1#0 THEN 1380
1360 PRINT "                                                    ";
1370 GOTO 1420
1380 IF G2#2 THEN 1400
1390 G=G1
1400 PRINT "GUIDANCE IS ON "S$[(INT(G/1000)*3)-2,INT(G/1000)*3];
1410 PRINT " IN ROOM "G-(INT(G/1000))*1000"        ";
1420 NEXT G2
1430 PRINT " "
1440 PRINT LIN5
1450 NEXT X
1460 IF VAL(D$[1,5])=0 THEN 1490
1470 A$=D$
1480 GOTO 170
1490 END
1500 WRITE (1,*)"JB"
1510 WAIT 100
1520 WRITE (1,*)"S"
1530 RETURN
1540 PRINT
1550 FOR F=1 TO 2
1560 PRINT "WEEK "F"    "H$" BLOCK"
1570 IF (F=2 AND S=1) OR (F=1 AND S=2) THEN 1590
1580 GOTO 1610
1590 PRINT "GUIDANCE IS ON "S$[(INT(G/1000)*3)-2,INT(G/1000)*3];
1600 PRINT " IN ROOM "G-(INT(G/1000))*1000
1610 FOR I=1 TO 5
1620 IF S=2 THEN 1700
1630 IF F#1 THEN 1670
1640 F$="10305"
1650 GOSUB 1810
1660 GOTO 1760
1670 F$="02040"
1680 GOSUB 1810
1690 GOTO 1760
1700 IF F#1 THEN 1740
1710 F$="02040"
1720 GOSUB 1810
1730 GOTO 1760
1740 F$="10305"
1750 GOSUB 1810
1760 NEXT I
1770 PRINT " YOU HAVE "Q$[1,4]" WITH "Q$[5,26]" IN ROOM";R;LIN1
1780 NEXT F
1790 PRINT
1800 RETURN
1810 IF VAL(F$[I,I])#I THEN 1850
1820 PRINT S$[(I*3)-2,I*3];
1830 IF I=5 OR (VAL(F$[5,5])=0 AND I=4) THEN 1850
1840 PRINT " & ";
1850 RETURN
```

```
10 DIM G$[14],GI[7,10],CI[12,18],C$[6],T$[14],B$[10],A$[80],D$[80],R$[6],S$[15]
20 DIM OI[1,5],E$[80],0$[30],J$[70],U$[14],V$[14],I$[80],F$[5]
30 FORMAT 2X,B
40 FORMAT B,2X,"!==============|==============|==============|==============!"
50 FORMAT "==============!"
60 LOAD  DATA 9,G
70 B$="ABCDEFGHIJ"
80 G$="151617181920 21"
90 S$="MONTUEWEDTHUFRI"
100 DISP "HOW MANY COPIES DO YOU WANT";
110 INPUT C
120 DISP " ARE THE CARDS IN THE HOPPER";
130 INPUT A$
140 IF A$[1,3]#"YES" THEN 120
150 WRITE (1,*)"D"
160 ENTER (1,*)A$
170 IF ABS(VAL(A$[1,6]))>56 THEN 210
180 GOSUB 1900
190 DISP "LEAD CARD IS NOT STUDENT CARD"
200 END
210 MAT C=ZER
220 G=S=S1=S2=G2=K1=K2=0
230 E=1
240 WRITE (1,*)"D"
250 ENTER (1,*)D$
260 IF ABS(VAL(D$[1,6]))>56 THEN 820
270 IF VAL(D$[1,5])=0 THEN 820
280 IF A$[3,3]#"8" THEN 330
290 IF D$[2,2]#"+" THEN 320
300 E=2
310 GOTO 330
320 E=3
330 U$="                "
340 T$="                "
350 H=POS(D$,"@")+1
360 H1=POS(B$,D$[H,H])
370 IF H1<6 THEN 390
380 H1=H1-5
390 L=POS(D$,"*")+1
400 M=POS(D$,"(")
410 IF POS(B$,D$[H,H])>5 THEN 440
420 D=1
430 GOTO 450
```

A-17

File 15 - EXPANDED TIME TABLE

FILE 15 - CONT

A-18

```
440 D=2
450 C$=D$[L,M-1]
460 V$=D$[14,H-2]
470 T$[5,12]=D$[7,13]
480 IF V$[1,4]#"WART" THEN 520
490 V$=D$[11,H-2]
500 T$[5,8]=D$[7,10]
510 T$[8,12]="    "
520 B=LEN(V$)
530 U$[(INT((14-B)/2))+1,INT((14-B)/2)+B]=V$[1,B]
540 IF C$[2,2]="/" THEN 630
550 IF C$[2,2]>="A" THEN 630
560 IF S=0 THEN 590
570 S3=VAL(C$[2,2])
580 GOTO 600
590 S=VAL(C$[2,2])
600 C$=C$[3]
610 P=D*6
620 GOTO 730
630 P=((D-1)*6)+H1
640 IF C[P,1]=0 THEN 680
650 GOSUB 1900
660 DISP "THERE IS MORE THAN ONE "D$[H,H]" BLOCK"
670 GOTO 200
680 IF C$[1,2]#"PE" THEN 730
690 IF G#0 THEN 720
700 G=G[(POS(G$,D$[1,2])+1)/2,((D-1)*5)+H1]
710 GOTO 730
720 G2=G[(POS(G$,D$[1,2])+1)/2,((D-1)*5)+H1]
730 TRANSFER C$ TO C[P,1]
740 TRANSFER T$ TO C[P,4]
750 TRANSFER U$ TO C[P,11]
760 C[P,18]=VAL(D$[M+1])
770 IF P>6 THEN 800
780 S1=S1+1
790 GOTO 810
800 S2=S2+1
810 GOTO 240
820 WRITE (1,*)"S"
830 FOR X=1 TO C
840 PRINT TAB31"76-77 TIMETABLE FOR"LIN1
850 PRINT TAB10;A$[7,(POS(A$,"@"))-1];TAB55"STUDENT #"A$[1,6];LIN1
860 IF S2#0 THEN 910
870 IF INT((ABS(VAL(A$[1,6])))/1000)#12 THEN 890
880 PRINT TAB30"**** EARLY GRAD ****"LIN1
890 K2=1
900 GOTO 920
910 K2=2
920 IF S1#0 THEN 960
930 S3=S
940 K1=2
950 GOTO 970
960 K1=1
970 IF G2#0 THEN 990
980 G2=G
990 FOR Y=K1 TO K2
1000 IF Y=1 THEN 1020
1010 S=S3
1020 IF E#1 THEN 1050
1030 PRINT TAB35"SEMESTER"Y;LIN1
1040 GOTO 1070
```

FILE IS CONT

A-19

```
1050 FOR F=1 TO 2
1060 PRINT TAB28"SEMESTER"Y;F"WEEK"LIN1
1070 GOSUB 1940
1080 FOR N=1 TO 5
1090 E$[((N-1)*15)+7,((N-1)*15)+9]=S$[(N*3)-2,N*3]
1100 NEXT N
1110 WRITE (15,30)0,E$
1120 WRITE (15,40)0,
1130 WRITE (15,50)
1140 FOR Z=1 TO 5
1150 IF Z#2 THEN 1200
1160 PRINT TAB26"* * * * P E C E S S * * * *"
1170 WRITE (15,40)0,
1180 WRITE (15,50)
1190 GOTO 1240
1200 IF Z#4 THEN 1240
1210 PRINT TAB28"* * * * L U N C H * * * *"
1220 WRITE (15,40)0,
1230 WRITE (15,50)
1240 MAT READ O
1250 GOSUB 1940
1260 FOR Z1=1 TO 5
1270 O=((Y-1)*6)+O[1,Z1]
1280 TRANSFER C[0,1] TO C$
1290 IF C$[1,2]#"PE" THEN 1420
1300 IF Y<2 THEN 1330
1310 A=G2
1320 GOTO 1340
1330 A=G
1340 IF E>1 THEN 1410
1350 IF INT(A/1000)#Z1 THEN 1410
1360 C$="GUI    "
1370 OUTPUT (R$,*)A-(INT(A/1000))*1000
1380 TRANSFER C[0,4] TO T$
1390 TRANSFER C[0,11] TO U$
1400 GOTO 1510
1410 GOTO-E OF 1420,2020,2020
1420 TRANSFER C[0,4] TO T$
1430 TRANSFER C[0,11] TO U$
1440 IF C[0,18]#0 THEN 1500
1450 IF C$[1,3]#"STC" THEN 1480
1460 R$=" STAGE"
1470 GOTO 1520
1480 R$=" GYM   "
1490 GOTO 1520
1500 OUTPUT (R$,*)C[0,18]
1510 R$[5,6]="  "
1520 O$[(Z1*6)-5,Z1*6]=R$[1,6]
1530 J$[((Z1)*14)-13,Z1*14]=T$
1540 I$[(Z1*14)-13,Z1*14]=U$
1550 E$[((Z1-1)*15)+7,((Z1-1)*15)+12]=C$
1560 IF Y#2 THEN 1590
1570 E$[((Z1-1)*15)+3,((Z1-1)*15)+3]=B$[O[1,Z1]+5,O[1,Z1]+5]
1580 GOTO 1600
1590 E$[((Z1-1)*15)+3,((Z1-1)*15)+3]=B$[O[1,Z1],O[1,Z1]]
1600 NEXT Z1
1610 WRITE (15,30)E$,0
1620 GOSUB 1940
```

FILE IS CONT

A-20

```
1630 FOR Z1=1 TO 5
1640 E$[((Z1-1)*15)+6,((Z1-1)*15)+11]=Q$[(Z1*6)-5,Z1*6]
1650 NEXT Z1
1660 WRITE (15,30)E$,0
1670 GOSUB 1940
1680 FOR Z1=1 TO 5
1690 E$[(Z1*15)-13,Z1*15]=J$[(Z1*14)-13,Z1*14]
1700 NEXT Z1
1710 WRITE (15,30)E$,0
1720 FOR Z1=1 TO 5
1730 E$[(Z1*15)-13,Z1*15]=I$[(Z1*14)-13,Z1*14]
1740 NEXT Z1
1750 WRITE (15,30)E$,0
1760 WRITE (15,40)0,
1770 WRITE (15,50)
1780 NEXT Z
1790 RESTORE
1800 PRINT LIN2
1810 IF E=1 THEN 1830
1820 NEXT F
1830 NEXT Y
1840 WAIT 3000
1850 NEXT X
1860 IF VAL(D$[1,5])=0 THEN 1890
1870 A$=D$
1880 GOTO 210
1890 END
1900 WRITE (1,*)"JB"
1910 WAIT 100
1920 WRITE (1,*)"S"
1930 RETURN
1940 E$[1,61]="!                    !                    !                    !
1950 E$[62,76]="                    !"
1960 RETURN
1970 DATA 1,2,3,4,5
1980 DATA 2,3,4,5,1
1990 DATA 3,4,5,1,2
2000 DATA 4,5,1,2,3
2010 DATA 5,1,2,3,4
2020 IF S=2 OR S3=2 THEN 2120
2030 IF F#1 THEN 2080
2040 F$="10305"
2050 GOSUB 2200
2060 IF Z1>5 THEN 1420
2070 GOTO 1420
2080 IF INT(A/1000)=Z1 THEN 1360
2090 F$="02040"
2100 GOSUB 2200
2110 GOTO 1420
2120 IF F#1 THEN 2170
2130 IF INT(A/1000)=Z1 THEN 1360
2140 F$="02040"
2150 GOSUB 2200
2160 GOTO 1420
2170 F$="10305"
2180 GOSUB 2200
2190 GOTO 1420
2200 FOR I=1 TO 5
2210 H=VAL(F$[I,I])
2220 IF Z1=H THEN 2250
2230 NEXT I
2240 GOTO 1420
2250 O=Y*6
2260 TRANSFER C[0,1] TO C$
2270 RETURN
```

FILE 16- LIST MAKER

A-21

```
10 DIM A$[80],B$[40],B[100,20],C$[3],D$[80],E$[40]
20 FORMAT B
30 DISP "WHAT IS TODAYS DATE";
40 INPUT E$
50 L=INT((80-LEN(E$))/2)
60 DISP "WHAT HEADING DO YOU DESIRE";
70 INPUT D$
80 M=INT((80-LEN(D$))/2)
90 DISP "INPUT NUMBER OF COPIES WANTED";
100 INPUT C
110 DISP "ARE THE CARDS IN THE HOPPER";
120 INPUT C$
130 IF C$[1,2]="NO" THEN 110
140 IF C$[1,3]#"YES" THEN 110
150 F=0
160 WRITE (1,*)"D"
170 ENTER (1,*)A$
175 B$="                                                                "
180 IF VAL(A$[1,6])=0 THEN 300
190 B$[1,6]=A$[1,6]
200 B=ABS(VAL(B$[1,6]))
210 IF B<61 THEN 250
220 S=9
230 B$[7,8]="  "
240 GOTO 260
250 S=5
260 B$[S,(POS(A$,"@"))-8+S]=A$[7,(POS(A$,"@"))-1]
270 TRANSFER B$ TO B[F+1,1]
280 F=F+1
290 GOTO 160
300 FOR X=1 TO C
310 PRINT TABM;
320 WRITE (15,20)D$,0
330 PRINT TABL;
340 WRITE (15,20)E$,0
345 PRINT
350 FOR Y=1 TO F
360 TRANSFER B[Y,1] TO B$
370 PRINT TAB10;B$
380 NEXT Y
385 PRINT LIN2
390 NEXT X
395 PRINT LIN2
400 END
```

FILE 17- ADDRESSOGRAPH

A-22

```
5 REM ADDRESSOGRAPH
10 DIM A$[80],B$[40],C$[40],D$[40]
20 WRITE (1,*)"D"
30 ENTER (1,*)A$
40 IF VAL(A$[1,5])=0 THEN 9998
50 IF ABS(VAL(A$[1,6]))>61 THEN 100
60 PRINT LIN2
70 PRINT TAB35;"DIV "A$[(POS(A$,"*"))+1,(POS(A$,"%"))-1]
80 PRINT LIN3
90 GOTO 20
100 E=POS(A$,"@")
110 I=POS(A$,"*")
120 J=POS(A$,"%")
130 K=POS(A$[1,E-1],",")
135 B$="
140 B$[1,E-K-1]=A$[K+1,E-1]
150 B$[E-K,E-K]=" "
160 B$[E-K+1]=A$[7,K-1]
170 C$=A$[E+1,I-1]
180 D$="WEST VANCOUVER, B.C."
190 P=POS(A$,"?")
200 IF P=0 THEN 300
210 A$[P,P]=" "
220 C$=A$[E+1,I-1]
230 D$="*****"
300 PRINT LIN2
310 PRINT "TO THE PARENTS OR GUARDIANS OF:"
320 PRINT TAB4,B$
330 PRINT TAB5,C$
340 PRINT TAB5,D$
350 GOTO 20
9998 PRINT LIN2
9999 END
```

```
10 DIM CI[7,15],C$[204],A$[80],D$[80],.I[7,1],OI[7,1],E$[8],B$[6],Z$[3],RI[7,1]
20 DIM Y$[7],T$[22],S$[1]
30 FORMAT 132B
40 WRITE (15,30)27,84
50 WRITE (15,30)27,70,INT(520/64),520
60 C$[1,66]="ENGLITSS EC LAWCIVHI GEOPE PEBPEGCR MA HMASMAGMACSCSC BIOCH PHYPSC"
70 C$[67,129]="ESCGSCFR LATGERBGRSP BSPTYPBTYBC S' BK GB BM OP OO IE WM DFTELE"
80 C$[130,192]="ELXPM AMXCSTMX HE FN CT FDSTX ARTDP D.PAD BA EGBIBACHODR WD ACT"
90 C$[193,204]="STCEDHLACWK LIB"
100 DISP "SEMESTER";
110 INPUT S$
120 S=VAL(S$)
130 GOTO S OF 150,170
140 GOTO 100
150 B$="ABCDEX"
160 GOTO 180
170 B$="FGHIJY"
180 DISP "INPUT YEAR. (EG. 75-76)";
190 INPUT Y$
200 DISP "[illegible] THE CARDS IN THE HOPPER";
210 INPUT A$
220 IF A$[1,3]#"YES" THEN 200
230 WRITE (1,*)"D"
240 ENTER (1,*)A$
250 IF ABS(VAL(A$[1,6]))>61 THEN 290
260 GOSUB 990
270 DISP "FIRST CARD IS NOT STUDENT CARD"
280 END
290 F=0
300 MAT C=ZER
310 MAT R=ZER
320 WRITE (1,*)"D"
330 ENTER (1,*)D$
340 IF D$[1,2]#"!5" THEN 360
350 D$[1,2]="15"
360 IF VAL(D$[1,5])=0 OR ABS(VAL(D$[1,6]))>61 THEN 810
370 E$=""
380 A=POS(D$,"@")
390 T=POS(D$,"*")
400 P=POS(D$,"(")
410 IF POS(B$,D$[A+1,A+1])=0 THEN 320
420 F=F+1
430 IF POS(D$,"WORK EX")<1 THEN 460
440 E$="WK EXP"
450 GOTO 470
```

FILE 18 CONT - NEW REPORT CARD

A-24

```
460 E$[1,P-T-1]=D$[T+1,P-1]
470 IF E$[2,2]="/" THEN 520
480 IF E$[2,2]>="A" THEN 520
490 B=7
500 E$=E$[3]
510 GOTO 530
520 B=POS(B$,D$[A+1,A+1])
530 IF R[B,1]=0 THEN 570
540 GOSUB 990
550 DISP "MORE THAN ONE "D$[A+1,A+1]" BLOCK"
560 END
570 IF E$[3,3]>="A" THEN 600
580 Z$=E$[1,2]
590 GOTO 610
600 Z$=E$[1,3]
610 P[F,1]=POS(C$,Z$)
620 IF P[F,1]#0 THEN 650
630 F=F-1
640 GOTO 320
650 TRANSFER E$ TO C[F,1]
660 TRANSFER D$[7,A-1] TO C[F,5]
670 R[B,1]=1
680 IF F#1 THEN 710
690 O[1,1]=1
700 GOTO 320
710 FOR X=1 TO F-1
720 IF P[O[X,1],1]>P[F,1] THEN 760
730 NEXT X
740 O[F,1]=F
750 GOTO 320
760 FOR X1=F TO X+1 STEP -1
770 O[X1,1]=O[X1-1,1]
780 NEXT X1
790 O[X,1]=F
800 GOTO 320
810 WRITE (1,*)"S"
820 IF INT((ABS(VAL(A$[1,6])))/100)<100 THEN 850
830 Z$=A$[2,4]
840 GOTO 860
850 Z$=A$[3,4]
860 WRITE (15,30)"        "A$[7,POS(A$,"@")-1]
870 WRITE (15,30)"        "Z$"     SEMESTER "S$"                    ";
880 WRITE (15,30)"          YEAR "Y$,10,10,10,10,10,10
890 FOR X=1 TO F
900 TRANSFER C[O[X,1],1] TO E$
910 TRANSFER C[O[X,1],5] TO T$
920 WRITE (15,30)"  "E$;TAB11;T$,10,10
930 NEXT X
940 WRITE (15,30)12,10
950 WAIT 2000
960 A$=D$
970 IF VAL(D$[1,5])#0 THEN 290
980 END
990 WRITE (1,*)"BJ"
1000 WAIT 100
1010 WRITE (1,*)"S"
1020 RETURN
```

FILE 19 - TEACHER LIST A-25

```
10 DIM T[65,15],T$[26],A$[20]
20 MAT T=ZER
30 LOAD  DATA 5,T
40 DISP "ANY TEACHER INFORMATION CHANGES";
50 INPUT T$
60 IF T$="NO" THEN 210
70 IF T$#"YES" THEN 40
80 T$="                              "
90 DISP "INPUT TEACHER NUMBER(-1 IF THRU)";
100 INPUT T
110 IF T=-1 THEN 200
120 DISP " INPUT TEACHER NAME";
130 INPUT T$
140 DISP "INPUT ROOM # ( 0 IF NONE)";
150 INPUT T[T,14]
160 DISP "INPUT DIVISION # ( 0 IF NONE)";
170 INPUT T[T,15]
180 TRANSFER T$ TO T[T,1]
190 GOTO 80
200 STORE  DATA 5,T
210 DISP "INPUT TODAYS DATE";
220 INPUT A$
230 DISP "HOW MANY COPIES WOULD YOU LIKE";
240 INPUT C
250 FOR Y=1 TO C
260 PRINT TAB20"HILLSIDE TEACHER LIST 76-77"
270 PRINT TAB25;A$;LIN1
280 PRINT "TEACHER #     TEACHER NAME                    ROOM#      DIV #"LIN1
290 FOR X=1 TO 60
300 TRANSFER T[X,1] TO T$
310 PRINT TAB2;X;TAB12;T$;TAB43;
320 IF T[X,14]=0 THEN 370
330 PRINT T[X,14];"     ";
340 IF T[X,15]=0 THEN 370
350 PRINT T[X,15]
360 GOTO 380
370 PRINT "  "
380 NEXT X
390 PRINT LIN2
400 NEXT Y
410 END
```

LISTS OF HARTS FILES

FILE #	FILES TITLES	SIZE
0	SPARE	3800
1	LIST OF HARTS FILES	1200
2	DIVISON LIST	1700
3	CLASS LIST	1200
4	DATA FILE Y(65,10)	700
5	DATA FILE T(65,15)	1000
6	TALLY PRINT OUT	300
7	TALLY MARK UP	200
8	GUIDANCE PRINT-OUT & MAKER	800
9	DATA FILE G(7,10)	100
10	DIV. & TEACHER TIME TABLE (S)	300
11	DIVISION TIME TABLE (M)	700
12	DIV. & TEACHER TIME TABLE (P)	500
13	TEACHER TIME TABLE (M)	500
14	UNEXPANDED TIME TABLE	2000
15	EXPANDED TIME TABLE	2400
16	LIST MAKER	800
17	ADDRESSOGRAPH	500
18	NEW REPORT CARD	1400
19	TEACHER LIST	500

File2 B-2

MISS C. LYSELL — NOV. 26, 1976 — DIV 81
ROOM 401 — GRADE 8

76-77 DIVISION LIST

+8101	ADOLPHS, RALPH	6209 ST. GEORGES CRESENT.	921-9809
8102	BAKER, JESSICA	1429 19TH	922-3560
+8104	BENNETT, PAUL	3310 THOMPSON CR.	922-2456
+8105	BECKERMAN, MIKE	4189 ROCKRIDGE RD.	926-9403
8106	CALDER, MEGAN	2962 MATHERS, CRES.	922-6311
8107	CANDY, ALISON	2426 LAWSON AVE.	922-1026
+8108	CLARK, TIMOTHY	3030 ROSEBERY AVE.	926-3030
8109	COLE, DIANA	4205 ROCKRIDGE ROAD	922-6402
8110	FITZGERALD, KATHERINE	3845 BAYRIDGE AVE	926-2038

File 2 B-3

MISS C. LYSELL
ROOM 401

NOV. 26, 1976

DIV 81
GRADE 8

76-77 DIVISION LIST

		FRI	MON	TUE	WED	THU	TOTAL
+8101	ADOLPHS, RALPH						
8102	BAKER, JESSICA						
+8104	BENNETT, PAUL						
+8105	BECKERMAN, MIKE						
8106	CALDER, MEGAN						
8107	CANDY, ALISON						
+8108	CLARK, TIMOTHY						
8109	COLE, DIANA						
8110	FITZGERALD, KATHERINE						

File 2 B-4

MISS C. LYSELL
ROOM 401

NOV. 26, 1976

DIV 31
GRADE 3

76-77 DIVISION LIST

		BIRTHDATE DA/MO/YEAR	AGE AS OF 26/ 11/ 76 YEARS & MONTHS
+8101	ADOLPHS, RALPH	07/01/63	13 /11
8102	BAKER, JESSICA	26/05/63	13 /6
+8104	BENNETT, PAUL	16/12/63	12 /11
+8105	BECKERMAN, MIKE	15/10/63	13 /1
8106	CALDER, MEGAN	04/11/63	13 /1
8107	CANDY, ALISON	18/05/63	13 /6
8108	CLARK, TIMOTHY	09/11/62	14 /1
8109	COLE, DIANA	18/03/63	13 /8
8110	FITZGERALD, KATHERINE	08/01/64	12 /11

File 3 B-5

CLASS LIST
NUMBER OF STUDENTS = 12

1 MR. D. DASHWOOD-JONES BLOCK A
COURSE ENG12 NOV. 26, 1976 ROOM # 213

		FRI	MON	TUE	WED	THU	TOTAL
12542	FENNER, KATHLEEN.....						
+11326	STEWART, ANDY.....						
12101	ALDRICH, JANE.....						
12104	BOSQUET, LEANNE.....						
12111	GRINNELL, JANE.....						
+12113	HILLS, MICHAEL.....						
12115	KITCHEN, CORINNA.....						
12122	NASH, LIZ.....						
12211	GLASGOW, JENNIFER.....						
+12218	MATHIESEN, DANE.....						
+12226	SMITH, MATT.....						
+12231	WEBER, COLIN.....						

File 3 B-

CLASS LIST
NUMBER OF STUDENTS = 12

1 MR. D. DASHWOOD-JONES BLOCK A
COURSE ENG12 NOV. 26, 1976 ROOM # 213

12542 FENNER, KATHLEEN.....
+11326 STEWART, ANDY.....
12101 ALDRICH, JANE.....
12104 BOSQUET, LEANNE.....
12111 GRINNELL, JANE.....
+12113 HILLS, MICHAEL.....
12115 KITCHEN, CORINNA.....
12122 NASH, LIZ.....
12211 GLASGOW, JENNIFER.....
+12218 MATHIESEN, DANE.....
+12226 SMITH, MATT.....
+12231 WEBER, COLIN.....

File 3 B-7

CLASS LIST
NUMBER OF STUDENTS = 12

1 MR. D. DASHWOOD-JONES BLOCK A'
COURSE ENG12 NOV. 26, 1976 ROOM # 213

12542	FENNER, KATHLEEN
+11326	STEWART, ANDY
12101	ALDRICH, JANE
12104	BOSQUET, LEANNE
12111	GRINNELL, JANE
+12113	HILLS, MICHAEL
12115	KITCHEN, CORINNA
12122	NASH, LIZ
12211	GLASGOW, JENNIFER
+12218	MATHIESEN, DANE
+12226	SMITH, MATT
+12231	WEBER, COLIN

		A	B	C	D	E	F	G	H	I	J
1	MR. D. DASHWOOD-JONES	28	24	32		32	23	26	21		28
2	MR. R. FROST	29	27	28		34	32	33	27	30	
3	MR. K. WALLACE	30		33	35	30	20		30	34	30
4	MR. M. WINEBERG	32	33	30	30	34	34	21		25	35
5	MISS M. SHERIDAN	31	32		25	31	32	29		25	32
6	MRS. M. HANSEN	30	30		28	30	33		27	28	29
7	MRS. M. BANKES		33	28	27	11		32	21	35	19
8	MR. D. STIGANT		28	28		23			28		18
9	MISS C. LYSELL	61	63		33	26	62	63	22		27
10	MR. G. RAGLIN	32	30	32			30	33		29	
11	MISS L. SCHEFFER	31	32	32		32	32		32	33	29
12	MR. R. CALLOW	33	30	26	20		33	32	18	26	
13	MR. B. LYNCH	26	32	32		25	28	32	32		33
14	MRS. P. BOYLE	33	33		30	29	34	32		29	32
15	MR. W. MCKITRICK		32	33	34			33	34	29	
16	MR. M. SMITH	28	32	21	32	28	28	33	28	13	23
17	MR. C. KERR	31	35	33		34	31	35	28	29	
18	MRS. A. HEYS	34	33	33	34		34	33			15
19	MRS. B. HUNTER	32			26	27	31	22			
20	MR. D. BOULTON	34	34		32	31	17		20	29	34
21	MISS. C. HURSON	34	31	31	31	26	33	32	23	28	30
22	MR. J. STIGANT	32	33	25	31		33	33	32		31
23	MR. C. DONALDSON		32	29	26	25	20		29	22	24
24	MRS. H. FENNY	31		20	20	21	26	20		29	21
25	MRS. M. JEWETT		32	30	30	30	29	30	29		30
26	MR. M. EDWARDS	23	34	32		25	24	27	28		19
27	MR. W. GODDARD	21	24		15	26	22	31		32	16
28	MR. D. HODGSON	27	15	30		17	25	11	31	18	
29	MR. J. RUFFELLE				29	32				30	31
30	MR. D. KENNEDY	32		33	29	26		26	27	31	29
31	MR. J. LOUDON	16	19	28		30	27	15	26		23
32	MR. J. BRIMACOMBE	32	15	28	31		27	29		30	33
33	MR. M. LETCHER	33	31		30	29	27	27		31	31
34	MR. J. HARRISON	19	29	25		30	21		29	21	27
35	MR. R. KNIGHT	22		31	28	27	19	20	29		30
36	MR. J. STEWART	26	29		26	25	23	26		29	32
37	MR. W. HOLLAND	31	29		26	26	32	33	25	24	
38	MR. W. ROWLEY			22	20				22	20	
39	MR. S. C. JONES	35		30	19	26	35	28	30		32
40	MRS. J. GRIFFIN	25	26	23	31			32	17	19	31
41	MR. C. PHILOCTETE	25		31	28	26	24	21		29	27
42	MISS K. BOUCHER		30	32	25	25	23		27	23	26
43	MR. J. DARBY	30	29	29				28	23	22	30
44	MR. D. TODD	28	31		28	15		32	31	24	31
45	MR. J. C. HEALEY				31			20		20	
46	MR. T. TAYLOR			33	30	25	28	23	31		
47	MR. T. ANGELES	22	21	29	14		23	20		28	32
48	MR. D. JOEL	25	23		17	14	25	24	14	23	28
49	MR. D. PHILLIPS	24	16	22		23		29	21	16	12
50	MR. R. LAWRENCE	25		17	15	25		19	23	16	22
51	MRS. E. CRIDER	19	22		28	19	22		24	9	24
52	MISS E. DRUMMOND		21	19	23	16	20	24	26		14
53	MR. F. DEUEL		30	17	25	36		26	20	30	17
54	MRS. J. LARKEY	65	53	12			64	52	25		
55	MR. D. STAGG	9	22	29	28		32	16	25	29	
56	MR. D. LOWE	11	12	7	8	10	6	3	8	6	6
57	MR. C. HANNAH					25			27		
58	MR. W. ELLIOTT	5	6	23	6	4	5	6	21	3	5
59	MR. N. ASHCROFT										
60	**** STUDY ****										

File 8 B-9

GUIDANCE SCHEDULE 76-77
NOV. 26, 1976

	A	B	C	D	E	F	G	H	I	J
15 MR. W. MCKITRICK			5 401					5 401	2 401	
16 MR. M. SMITH	3 401	1 401			2 401	3 401	1 401			4 401
17 MR. C. KERR	1 401	3 401	2 401		5 401	1 401	3 401	2 401	4 401	
18 MRS. A. HEYS	3 401	5 401	3 401	4 401		3 401	5 401			5 401
19 MRS. B. HUNTER	2 401	2 401			3 401	2 401	2 401			
20 MR. D. BOULTON		2 401		5 401		4 401		3 401	5 401	3 401
21 MISS. C. HURSON	5 401	3 401	4 401	3 401	4 401	5 401	3 401	4 401	3 401	2 401
MR. DARBY				2 401						

File 10,11,12 B-10

DIV 81 76-77 DIVISION TIME TABLE NOV. 26, 1976

	A/F	B/G	C/H	D/I	E/J
+8101 ADOLPHS, RALPH	S2DR8	SS8	ENG8X	MA8X	SC8
	9 402	12 316	2 331	22 304	30 253
	S2DR8	IE8	ENG8Y	MA8Y	FR8R
	9 402	47 112	2 331	24 303	40 214

one div. ↓

File 14 B-11

76-77 TIMETABLE FOR

ADOLPHS, RALPH

STUDENT # +8101

BLOCK	SEMESTER 1			BLOCK	SEMESTER 2		
A	PE8B	MR. M. SMITH	GYM	F	PE8B	MR. M. SMITH	GYM
B	SS8	MR. R. CALLOW	316	G	IE8	MR. T. ANGELES	112
C	ENG8X	MR. R. FROST	331	H	ENG8Y	MR. R. FROST	331
D	MA8X	MR. J. STIGANT	304	I	MA8Y	MRS. H. FENNY	303
E	SC8	MR. D. KENNEDY	253	J	FR8R	MRS. J. GRIFFIN	214

WEEK 1 A BLOCK
GUIDANCE IS ON WED IN ROOM 401
TUE & THU YOU HAVE DR8 WITH MISS C. LYSELL IN ROOM 402

WEEK 2 A BLOCK
MON & WED & FRI YOU HAVE DR8 WITH MISS C. LYSELL IN ROOM 402

76-77 TIMETABLE FOR

SCHULEY, GREG

STUDENT # +11724

BLOCK	SEMESTER 1			BLOCK	SEMESTER 2		
A	ESC11	MR. STEWART	202	F	CSC11	MR. W. GODDARD	305
B	SS11G	MR. W. MCKITRICK	333	G	MA11	MRS. M. JEWETT	204
C	ENG11	MR. R. WALLACE	333	H	PE11	MR. W. MCKITRICK	GYM
D	STUDY		LIB	I	STUDY		LIB
E	FDS11S	MRS. E. CRIDER	215	J	PHY11	MR. J. BRIMACOMBE	253

GUIDANCE IS ON FRI IN ROOM 401

76-77 TIMETABLE FOR File 15 B-12

ADOLPHS, RALPH STUDENT # +8101

SEMESTER 1 1 WEEK

MON	TUE	WED	THU	FRI
A PE8B GYM MR. M. SMITH	B SS8 316 MR. R. CALLOW	C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY
* * * * R E C E S S * * * *				
B SS8 316 MR. R. CALLOW	C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY	A PE8B GYM MR. M. SMITH
C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY	A DR8 402 MISS C. LYSELL	B SS8 316 MR. R. CALLOW
* * * * L U N C H * * * *				
D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY	A GUI 401 MR. M. SMITH	B SS8 316 MR. R. CALLOW	C ENG8X 331 MR. R. FROST
E SC8 253 MR. D. KENNEDY	A DR8 402 MISS C. LYSELL	B SS8 316 MR. R. CALLOW	C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT

SEMESTER 1 2 WEEK

MON	TUE	WED	THU	FRI
A DR8 402 MISS C. LYSELL	B SS8 316 MR. R. CALLOW	C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY
* * * * R E C E S S * * * *				
B SS8 316 MR. R. CALLOW	C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY	A DR8 402 MISS C. LYSELL
C ENG8X 331 MR. R. FROST	D MA8X 304 MR. J. STIGANT	E SC8 253 MR. D. KENNEDY	A PE8B GYM MR. M. SMITH	B SS8 316 MR. R. CALLOW
* * * * L U N C H * * * *				

SEMESTER 2 1 WEEK

MON	TUE	WED	THU	FRI
F PE8B GYM MR. M. SMITH	G IE8 112 MR. T. ANGELES	H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN
* * * * R E C E S S * * * *				
G IE8 112 MR. T. ANGELES	H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN	F PE8B GYM MR. M. SMITH
H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN	F DR8 402 MISS C. LYSELL	G IE8 112 MR. T. ANGELES
* * * * L U N C H * * * *				
I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN	F GUI 401 MR. M. SMITH	G IE8 112 MR. T. ANGELES	H ENG8Y 331 MR. R. FROST
J FR8R 214 MRS. J. GRIFFIN	F DR8 402 MISS C. LYSELL	G IE8 112 MR. T. ANGELES	H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY

SEMESTER 2 2 WEEK

MON	TUE	WED	THU	FRI
F DR8 402 MISS C. LYSELL	G IE8 112 MR. T. ANGELES	H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN
* * * * R E C E S S * * * *				
G IE8 112 MR. T. ANGELES	H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN	F DR8 402 MISS C. LYSELL
H ENG8Y 331 MR. R. FROST	I MA8Y 303 MRS. H. FENNY	J FR8R 214 MRS. J. GRIFFIN	F PE8B GYM MR. M. SMITH	G IE8 112 MR. T. ANGELES
* * * * L U N C H * * * *				
I MA8Y 303 MRS. H.	J FR8R 214 MRS. J.	F DR8 402 MISS C.	G IE8 112 MR. T.	H ENG8Y 331 MR. R.

File 16 B-14

TESTING OF CARDS
NOV. 26, 1976

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+11724  SCHOLEY, GREG
36   MR. STEWART
15   MR. W. MCKITRICK
3    MR. R. WALLACE
60   STUDY
51   MRS. E. CRIDER
27   MR. W. GODDARD
25   MRS. M. JEWETT
15   MR. W. MCKITRICK
60   STUDY
32   MR. J. BRIMACOMBE
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File 17 B-15

TO THE PARENTS OR GUARDIANS OF:
RALPH ADOLPHS
6209 ST. GEORGES CRESENT,
WEST VANCOUVER, B.C.

TO THE PARENTS OR GUARDIANS OF:
JESSICA BAKER
1429 19TH
WEST VANCOUVER, B.C.

TO THE PARENTS OR GUARDIANS OF:
PAUL BENNETT
3310 THOMPSON CR.
WEST VANCOUVER, B.C.

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↳

NAME:
DIVISION:

HILLSIDE SECONDARY SCHOOL REPORT TO PARENTS

PARENTS WISHING A DISCUSSION WITH COUNSELLOR OR SUBJECT TEACHER PLEASE PHONE THE SCHOOL AT 922-9148.
N.B. SUBJECT LATES AND ABSENCES ARE CUMULATIVE

N.B. HOMEWORK ASSIGNMENTS MAY BE, BY REGULATION:
GR. 8 - 9 : 1 HOUR DAILY, GR. 10 - 12 : 2 HOURS DAILY

COURSE	TEACHER	REPORT 1			REPORT 2			FINAL	COMMENT - FIRST REPORT
		MARK	ABS.	LATE	MARK	ABS.	LATE		

Continued next page

ACHIEVEMENT

A = EXCELLENT, B = GOOD, C+ = ABOVE AVERAGE, C = AVERAGE, P = PASS, F = FAIL.
A AND B ARE HONOURS AND SHOW POTENTIAL SCHOLARSHIP STANDING.
C+ AND C SHOW POTENTIAL RECOMMENDATION.
P IS THE MINIMUM STANDARD FOR CREDIT. F GIVES NO CREDIT.
I = INCOMPLETE AND SHOWS NO CREDIT AT THIS TIME. I IS AN INTERIM GRADE ONLY.

B-16 File 18

B-16 File 18

Continued from previous page

HILLSIDE

Esse Quam Videri

COMMENT - SECOND REPORT	

HOME ROOM	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.
DAYS ABSENT										
DAYS LATE										

B-17
File 18

6-7
File 18

File 19 B-18

HILLSIDE TEACHER LIST 76-77
NOV. 26, 1976

TEACHER #	TEACHER NAME	DIV.#	ROOM#
1	MR. D. DASHWOOD-JONES	121	213
2	MR. E. FROST	114	331
3	MR. R. WALLACE		
4	MR. M. WINEBERG	91	155
5	MISS M. SHERIDAN	93	251
6	MRS. M. HAAGEN	87	351
7	MRS. M. BANKES		
8	MR. D. STIGANT	84	151
9	MISS C. LYSELL	81	401
10	MR. G. RAGLIN	126	233
11	MISS L. SCHEFFER	115	231
12	MR. R. CALLOW		
13	MR. B. LYNCH	101	232
14	MRS. P. BOYLE	112	332
15	MR. W. MCKITRICK	82	333
16	MR. M. SMITH		
17	MR. C. KERR		
18	MRS. A. HEYS		
19	MRS. B. HUNTER		
20	MR. D. BOULTON		
21	MISS. C. HURSON		
22	MR. J. STIGANT	125	304
23	MR. C. DONALDSON	96	302
24	MRS. H. FENNY	113	303
25	MRS. M. JEWETT	85	204
26	MR. M. EDWARDS	103	201
27	MR. W. GODDARD	124	305
28	MR. D. HODGSON	95	301
29	MR. J. RUFFELLE		
30	MR. D. KENNEDY	88	316
31	MR. J. LOUDON	123	258
32	MR. T. BRIMACOMBE	97	253
33	MR. M. LETCHER	122	358
34	MR. T. HARRISON	104	255
35	MR. R. KNIGHT	98	355
36	MR. J. STEWART	83	202
37	MR. W. HOLLAND	118	353
38	MR. W. ROWLEY		
39	MR. S. C. JONES	102	206
40	MRS. J. GRIFFIN		
41	MR. C. PHILOCTETE	94	208
42	MISS K. BOUCHER	86	203
43	MR. J. DARBY	116	158
44	MR. D. TODD	117	153
45	MR. J. C. HEALEY		
46	MR. T. TAYLOR		
47	MR. T. ANGELES	107	112
48	MR. D. JOSI		
49	MR. D. PHILLIPS	108	114
50	MR. R. LAWRENCE		
51	MRS. E. CRIDER	105	215
52	MISS E. DRUMMOND	106	216
53	MR. F. DEUEL	111	315
54	MRS. J. LARKEY		
55	MR. D. STAGG	92	214
56	MR. D. LOWRY		
57	MR. G. HANNAH		
58	MR. W. ELLIOTT		
59	MR. R. ASHCROFT		
60	**** STUDY ****		

XIX

Appendix C - prepared by W. Elliott

C-1

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
A. STAFF-STUDENT FEEDBACK		
1. Department heads will organize department meetings in early December to discuss possible improvements in arena scheduling.	DECEMBER 10	3 *
2. All available counsellors will visit Grade 9, 10 and 11 Guidance classes in the first semester and early in the second semester to discuss student reaction to arena scheduling.	FEBRUARY 18	6 ****
- Schedule of visitations.	NOVEMBER 18	1 **
B. COURSE CALENDARS - PREPARATION		
These booklets contain course descriptions, course requirements, post-secondary programs and requirements and other related program planning information.		1 **
1. Compilation and Coordination - Grade 8 Calendar - Grade 9-10 Calendar - Grade 11-12 Calendar		3
2. Staff and/or Department meetings to discuss and organize revision of course descriptions.	DECEMBER 3	3 *
3. Course descriptions prepared by staff and edited by Department Coordinators	FEBRUARY 3	6
4. Course descriptions collated into three booklets	FEBRUARY 8	3
5. Typing, printing and binding of calendars	FEBRUARY 18	1 ***
6. Counsellors' inservice (all day)	FEBRUARY 21	1 **

Note: * = principal
** = academic planner
*** = data processing clerk
**** = counsellors

DESCRIPTION OF TASK	COMPLETION DEADLINE	C-2 STAFF MEMBERS REQ'D - NAMES
C. COURSE CALENDARS - DESCRIPTION AND USE		
1. Grade 8 assembly held in cafeteria for preliminary indoctrination.	FEBRUARY 22 (B BLOCK)	2 *
2. Arena inservice interview schedule with counsellors drawn up and distributed to all Grade 8 - 11 homerooms.	FEBRUARY 16	1 * *
3. Student inservice - counsellors conduct group sessions with their student clients. These groups should be composed of about 10 - 15 students and the course calendar distributed at the beginning of the session.	FEBRUARY 23 - MARCH 8	6 * * * * *
4. Parent inservice - evening meetings to be held at Hillside to explain course offerings and arena scheduling procedures.		6 * * * * *
- Grades 11 - 12	FEBRUARY 28	
- Grade 9	MARCH 1	
- Grade 10	MARCH 2	
5. Elementary feeder schools - visitations to distribute course calendars, discuss information and hand out student data/course selection sheets. These evening meetings to be held at:		5 *
a) Irwin Park	MARCH 10	
b) West Bay	MARCH 7	
c) Caulfield	MARCH 8	
d) Pauline Johnson	MARCH 9	
e) other (at Hillside)	MARCH 14	

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
6. Initial Course Selection		
- preparation of initial course selection sheets	MARCH 4	2 **
- grade assemblies are held in cafeteria to complete initial course selection sheets	MARCH 9	
- Grade 10 (H Block) - Grade 11 (I Block) - Grade 9 (J Block) - Grade 8 (F Block)		
- counsellors arrange to see students absent on March 9 to complete initial course selection sheets.	MARCH 10 and 11	6 ****
7. Counsellors check initial course selection sheets	MARCH 10 - 18	6 ****
- sign those which appear appropriate - return original to student via homeroom teacher - keep duplicate in own files - call in those students whose choices appear inappropriate - discuss possible alternatives but do not sign any sheets you can not agree with, and comment on sheet - return original copy to student and keep duplicate on file.		
8. Parental approval of initial course selection		
- inform parents by newsletter that students will be bringing home the initial course selection sheet for their approval the week of March 14 - 18.	MARCH 3	1 *
- students take original copy home for parental perusal and signature	MARCH 14 - 18	
- signed original course selection sheets are returned to the homeroom teacher.	MARCH 15 - 22	

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D NAME
9. Counsellors check off returned, signed initial course selection sheets - make any alteration on duplicate copy as well - if a student has not handed in a signed sheet, use the duplicate copy - submit all signed or duplicate copies to Mr. Elliott	MARCH 15 - 23 MARCH 24	6 ****
10. Elementary feeder schools submit student data/course selection sheets for all prospective Hillside students	MARCH 22	1
D. CONSTRUCTION OF TIMETABLE		2 **
1. Course tallies and preliminary sectioning	APRIL 7	
2. Post list of courses not offered to homerooms	APRIL 12	
3. Final sectioning	APRIL 15	1 *
4. Construction of Master timetable	APRIL 29	2 ****
5. Construction of department sub-master timetables	MAY 6	1
6. Departments determine teaching and room assignments	MAY 18	2
7. Print final Master timetable	MAY 24	
8. Print three forms of Master timetable - Grade 8 - Grade 9 - 10 - Grade 11 - 12	MAY 27	

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
E. FINAL STAGE OF STUDENT PREPARATION		
1. Distribution of master timetables to all students via homerooms	MAY 30	
2. Practice sheets and instructions on strategy to be distributed to Grades 9 - 11 students by Counsellors in homerooms	MAY 30	
3. Grade 8 assembly to outline arena scheduling and course selection procedures and strategy - students are given practice sheets as they enter the assembly area - instructions on strategy are printed on these sheets	MAY 31	
4. Second session of arena inservice for students with counsellors	JUNE 1 - JUNE 22	
-draw up schedule for counsellor availability and distribute to all Grade 8 - 11 homerooms	MAY 30	
5. Students who will be absent on their arena day must submit practice sheet to office where they will be date and time stamped.	JUNE 22	
6. Grade 8's will be hand loaded and computer print out of timetable produced	JUNE 3	
7. Visitation to elementary schools in the daytime to issue and discuss Grade 8 timetables a) Irwin Park - Morning b) Pauline Johnson - Afternoon c) West Bay - Morning d) Caulfield - Afternoon e) Eagle Harbour - Morning f) Gleneagles - Afternoon g) other (by appointment)	JUNE 6 - 17	
F. ORGANIZATION OF ARENA DAY (s)		
1. Schedule of staff sign-up responsibilities	JUNE 6	
2. Maps of gym area showing teacher and subject arrangement	JUNE 13	
3. Preparation of staff kits a) Block designation - 5 x 8 cards (upper left corner) b) Subject name - 5 x 8 cards	JUNE 13	

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
4. Preparation of large signs - subject areas	JUNE 13	2
5. Selection of student assistants - primarily Grade 11's, based on need and reliability	JUNE 15	3
6. Meetings with student assistants - arena set up and registration procedures in cafeteria and gymnasiums discussed	JUNE 20	2
7. Staff Inservice meeting - procedures and assignments discussed	JUNE 17	3 +
8. Compile student failure lists - all students who fail second semester courses must be informed by subject teachers	JUNE 22	1
9. Organization and set-up of cafeteria - physical set-up - software set-up	JUNE 23 (p.m.) JUNE 24 (8:30 a.m.)	2
10. Organization and set-up of gymnasiums - physical set-up - software set-up	JUNE 23 (p.m.) JUNE 24 (8:30 a.m.)	6 + + +

G. REGISTRATION DAYS

1. Friday - June 24th

94 9:00 A.M. - Grade 12's enter gym

10:15 A.M. - Grade 11's enter gym

12:30 P.M. - Grade 10's enter gym

1:45 P.M. - Grade 9's enter gym

95

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
2. Monday - June 27th All class lists checked and close registration in certain classes if necessary.		2 ** ***
3. Tuesday - June 28th 9:00 A.M. - clear up incomplete timetables and absentees		1***
4. Wednesday - June 29th 9:00 A.M. - students report to pick up completed timetables		
H. COMPUTER CARD DATA COLLECTION		
STUDENT CARDS		
1. Arrange a 1976/77 ALPHA by school and ALPHA by grade	First year - before Christmas Thereafter - concurrently	1***
2. From computer print out of 1976/77 ALPHA by grade, assign new (1977/78) student numbers		1**
3. On 1976/77 ALPHA by grade cards, pencil in new student numbers, postal codes and changes in data		1***
4. Key punch new student cards - Grade 8's - 17 cards - Grade 9 - 12's - 15 cards	Before March	1***
5. Produce new files - 1977/78 ALPHA by grade and school - 1977/78 division - remaining cards placed in envelopes ALPHA by grade (1976/77) for arena	"	1***

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
		C·8
TEACHER CARDS		
1. Arrange master file of teacher cards (1977/78) a) Add new teachers b) Reassign teacher numbers c) Reassign new division numbers	A.S.A.P. MAY 24	1 * * *
2. When master timetable is complete, use 1977/78 teacher master file to key punch new teacher cards a) Block b) Subject code c) Room number	"	1 * * *
3. Arrange teacher cards in envelopes by teacher number and block order for arena	"	1 * * *
I. **SPECIAL FORMS AND BULLETINS**		2
FORMS		
1. Preliminary Course Selection Sheets (2 copies - original and counsellors)	FEBRUARY 15	* * 1
2. Revised, new Grade 8 Student Data and Course Selection Sheet	FEBRUARY 15	* * 1
3. Department sub-masters of timetable	MAY 6	* * 1
4. Practice Sheets and instructions on strategy	MAY 15	1
5. Master timetable	MAY 24	1 * *
6. Three forms of master timetable	MAY 27	1 * *
7. Class Lists and Student Scheduling forms for arena	JUNE 15	1 * * *
8. Division Lists for arena registration	JUNE 15	1 * * *

DESCRIPTION OF TASK	COMPLETION DEADLINE	STAFF MEMBERS REQ'D - NAMES
BULLETINS		
1. First inservice interview schedule	FEBRUARY 15	/ * *
2. Newsletter to parents re initial course selection by students	MARCH 2	/ *
3. List of courses not offered	APRIL 12	/ * *
4. Second inservice interview schedule	MAY 27	/ * *
5. Newsletter to parents re arena day	JUNE 15	/ *
OPENING DAY PRINT-OUTS	LAST WEEK OF SCHOOL & DURING SUMMER	* * * *